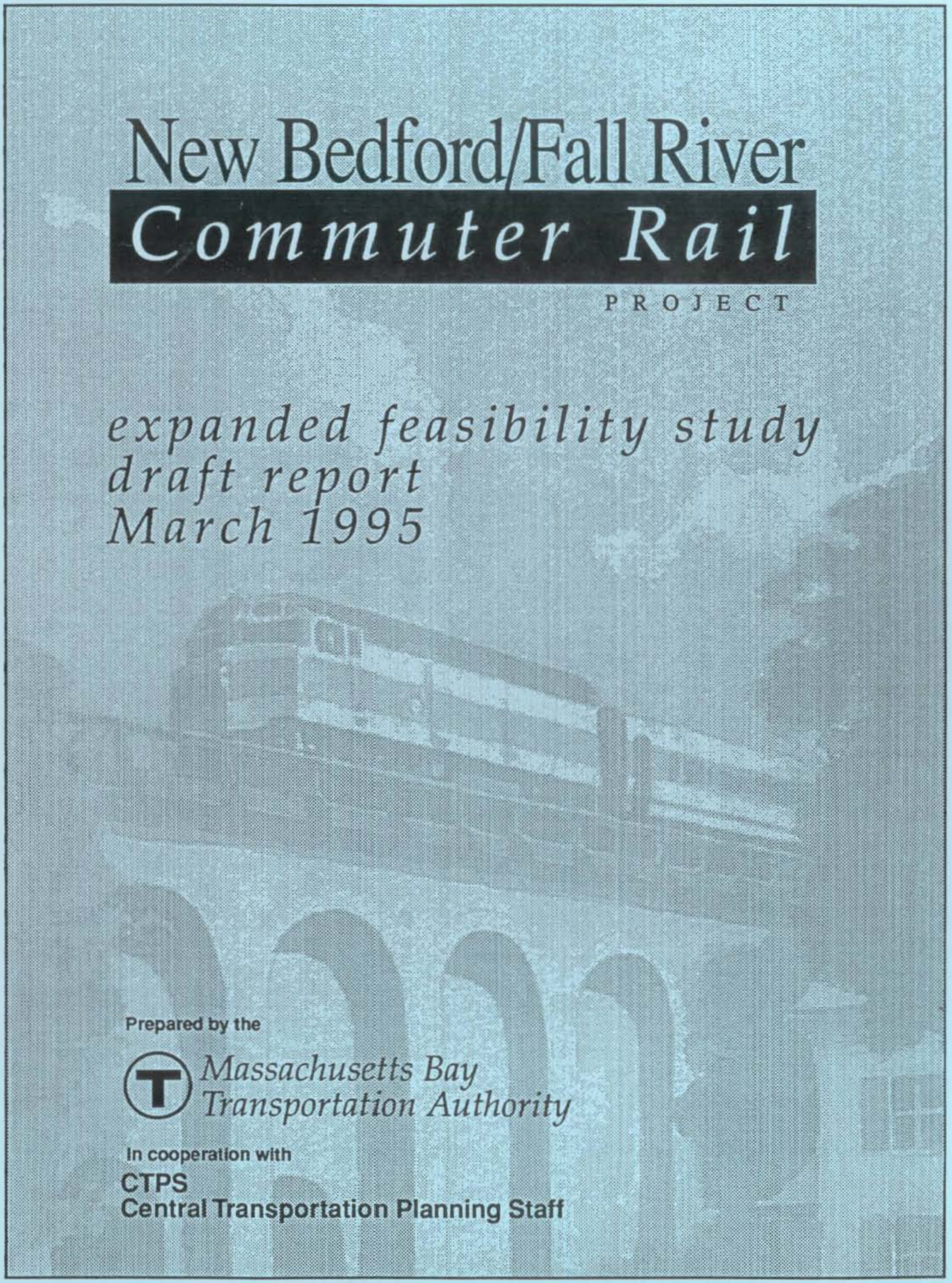

New Bedford/Fall River
Commuter Rail
PROJECT

expanded feasibility study
draft report
March 1995

Prepared by the

Massachusetts Bay Transportation Authority

In cooperation with

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Executive Summary

Until 1959, commuter rail service from South Station to New Bedford and Fall River was provided along the Providence Commuter Rail Line, via connections in Canton Junction and Taunton. Rail service is currently provided only as far as Stoughton along the same line, now known as the Stoughton Branch. Commuter rail service to Providence is still in operation via Attleboro; service to Middleborough will be restored in 1996 via Braintree. The remainder of southeastern Massachusetts is serviced by three major bus carriers. With the growth of the last decade in the metropolitan region, many communities have proposed reestablishing passenger service to Boston as a way of mitigating against traffic congestion on secondary roads.

In the late 1980s, the Massachusetts Bay Transportation Authority (MBTA) commissioned a feasibility study of commuter rail service to New Bedford and Fall River. This study, *Commuter Rail Extension Feasibility Study - New Bedford/Fall River*, was completed in January, 1990 by Louis Berger & Associates. The study recommended that service on the Stoughton Branch be extended to New Bedford and Fall River. However, prior to the MBTA's commencement of design and environmental analysis of the extension, a number of issues were raised related to alternative transportation strategies that had not been considered as part of the study. To address these issues, this report expands upon the previous feasibility study, investigating the feasibility of several additional alternatives including an enhanced commuter bus alternative.

Seven rail alternatives and an enhanced commuter bus alternative were considered. The rail alternatives include four options extending the Old Colony Middleborough Line to either Fall River or New Bedford, two options extending the Stoughton Branch to either North Easton or Fall River and New Bedford, and one option branching from the Main Line in Attleboro to Fall River and New Bedford through Taunton. The commuter bus alternative includes both operational and capital improvements to existing commuter bus routes.

The rail alternatives mostly utilize existing right-of-way owned by the MBTA, EOTC and Conrail, and would require various levels of track upgrading along existing and abandoned lines. Some acquisition of property would be required to accommodate connection between existing lines, station siting and layover facilities. Bridges, culverts, grade crossings, sidings, and signals and communications will require improvements to meet MBTA standards.

The majority of the right-of-way is presently utilized for freight service; environmental constraints in these areas were, therefore, found to be minimal. The abandoned section of right-of-way from Stoughton to Taunton will require closer scrutiny in regard to environmental issues.

Cost and ridership statistics for each alternative are summarized on the following page. The estimates represent the incremental costs of commuter rail service for incremental riders only.

Several overall conclusions have been drawn from the analysis performed:

- Service to Fall River and New Bedford would require the implementation of two new lines, each of which would share a common segment. It is not possible to effectively serve both cities with one line.
- Middleborough branch extensions can serve only one terminus - Fall River or New Bedford - but not both. This is due to capacity constraints north of Braintree. Middleborough alignments also have longer travel times and lower ridership than alternatives using extensions of Attleboro or Stoughton lines.
- Stoughton extensions have the highest ridership (up to 5,300 trips per weekday), yet require the greatest degree of track restoration. Higher infrastructure costs are somewhat offset by higher ridership, particularly because of the North Easton station.
- The advantage of the Attleboro alignment is its lower capital costs. Except for a two-mile bypass around Attleboro, all required right-of-way is currently in active use. However, operating costs are slightly higher and ridership is lower because of numerous grade crossings and frequent curves.
- The commuter bus alternative and a commuter rail extension only to North Easton are the most cost-effective alternatives. These options have the lowest total annual costs, lowest capital costs, and lowest annual operating costs per new rider.
- The Stoughton and Attleboro branch options (Alternatives 3, 4, 5), along with the commuter bus alternative (Alternative 6), are considered viable options.
- Middleborough branch options (Alternatives 1, 1A, 2 and 2A) should be dropped from consideration due to capacity constraints, operational requirements, and lower ridership which reduces cost-effectiveness.

New Bedford / Fall River Commuter Rail Extensions Summary Of Alternatives

(all costs are in 1994 dollars)

Alt. No.	Description	Total Ridership	New Transit Riders	New Route Miles	Capital Cost ($mil.)	Equipment Cost ($mil.)	Net Annual Operating Cost ($mil)	Total Annualized[1] Cost ($mil)	Fare Box Recovery Ratio
1	Fall River via Middleborough	2,865	1,405	23.5	$77.74	$10.2	$4.1	$15.5	52%
1A	Fall River via Middleborough with reverse move at Lakeville	1,950	495	23.7	$74.66	$10.2	$6.5	$15.4	24%
2	New Bedford via Middleborough	2,715	1,250	26.7	$84.53	$10.2	$5.8	$17.3	40%
2A	New Bedford via Middleborough with reverse move at Lakeville	1,930	470	27.0	$81.45	$10.2	$7.9	$17.1	19%
3	North Easton via Stoughton Branch	2,350	900	2.5	$16.80	$10.2	($0.8)	$3.0	189%
4	Fall River/New Bedford via Stoughton	5,480	3,520	107.9	$247.41	$79.6	$27.4	$65.4	30%
5	Fall River/New Bedford via Attleboro	4,205	2,545	118.0	$156.43	$79.6	$33.6	$61.7	21%
6	Commuter Bus	3,520	2,060	-	$64.2	$9.1	$4.7	$10.5	49%

1. Total Annualized Costs = Annualized Capital Costs + Annualized Gross Operating Costs + Annualized Equipment Costs

- Only those alternatives which implement full branched service to both Fall River and New Bedford are shown to achieve ridership that is at a level comparable to existing commuter rail lines. Also, adding one additional stop to the Stoughton Branch under Alternative 3 would substantially increase ridership on that line.
- Service to Fall River involves a shorter route, and has lower capital and operating costs than to New Bedford. The Fall River line also has higher ridership because of an additional stop in Freetown.
- Consideration should be given to extend service as far as Taunton or East Taunton along the Attleboro and/or Stoughton lines. East Taunton station has the second highest ridership after North Easton.
- Consideration should be given to an alternative which extends service along the Stoughton Branch via Weir Junction, utilizing an EOTC-owned rail segment south of Raynham rather than passing through Whittenton Junction and Taunton Center. This route would avoid numerous grade crossings in the Taunton Center area and possibly decrease travel times and reduce costs along the Stoughton Branch.
- Coordination with Amtrak is required, regarding the status of Northeast Corridor Master Plan improvements and South Station capacity issues.

The next steps to be followed by the MBTA depend on whether state or federal funding is to be used to further study and design a commuter rail extension to New Bedford/Fall River. Under the state process, a preferred alternative would be selected based on the results of this expanded feasibility study and related public comments. An Environmental Notification Form would then be filed with the Executive Office of Environmental Affairs to help determine the scope for further study.

If federal funds are to be used, the MBTA must carry forward the best alternatives from this study into a Major Investment Study (MIS). A MIS would involve a more detailed alternatives analysis and an environmental analysis following both federal and state regulations. A preferred alternative would be selected at the end of this process. It is estimated that the federal process would delay the start of construction approximately one-year.

NEW BEDFORD / FALL RIVER COMMUTER RAIL EXTENSIONS EXPANDED FEASIBILITY STUDY

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I. INTRODUCTION

A. BACKGROUND

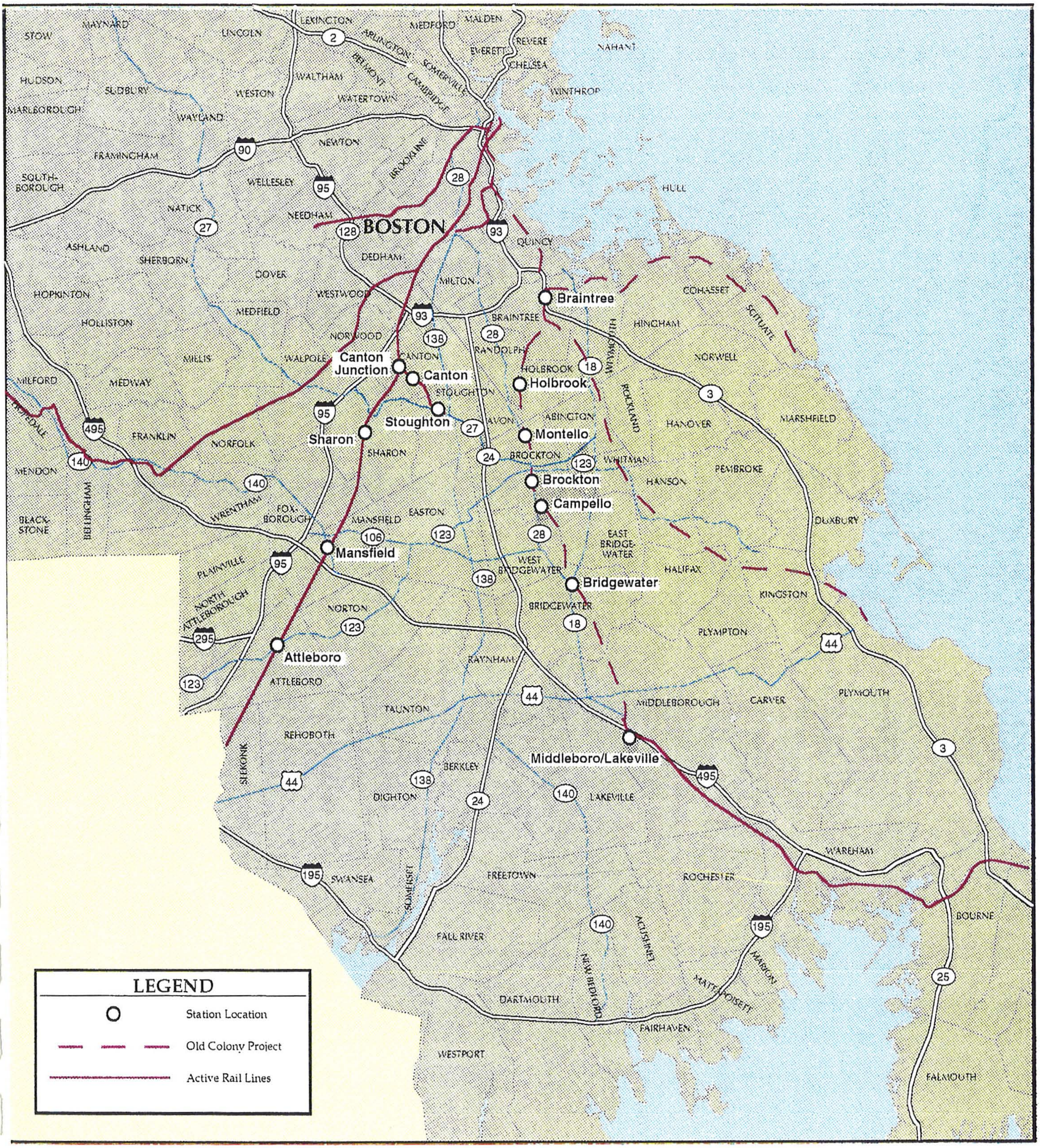
Until 1959, commuter rail service from South Station to New Bedford and Fall River was provided along the Providence Commuter Rail Line, via connections in Canton Junction and Taunton (see **Figure 1**). Rail service is currently provided only as far as Stoughton via the same connection, now known as the Stoughton Branch. Commuter rail service to Providence is still in operation via Attleboro; service to Middleborough is expected to be restored in 1996 via Braintree. The remainder of Southeastern Massachusetts is served by three major bus carriers. With the growth of the last decade in the metropolitan region, many communities have proposed reestablishing passenger service to Boston as a way of mitigating against traffic congestion on secondary roads.

In the late 1980's the Massachusetts Bay Transportation Authority (MBTA) commissioned a feasibility study of commuter rail service to New Bedford and Fall River. This study, *Commuter Rail Extension Feasibility Study - New Bedford/Fall River*, was completed in January, 1990 by Louis Berger & Associates. The study recommended that service on the Stoughton Branch be extended to New Bedford and Fall River. However, prior to the MBTA's commencement of design and environmental analysis of the extension, a number of issues were raised related to alternative transportation strategies that had not been considered as part of the study. To address these issues, this report expands upon the previous feasibility study, investigating the feasibility of several additional alternatives including an enhanced commuter bus alternative.

B. SUMMARY OF 1990 FEASIBILITY STUDY

The 1990 Feasibility Study evaluated a southern extension of commuter rail service from the MBTA's existing Stoughton Branch service. The study area included the on-line cities and towns of Stoughton, Easton, Raynham, Taunton, Berkeley, Lakeville, Freetown, New Bedford, Fall River, Dartmouth and Westport. Five rail extension alternatives to New Bedford and Fall River were studied, along with one express bus alternative. The rail alternatives included extensions from Stoughton to Taunton (former Alternative 1), to New Bedford (former Alternative 2), to Fall River (former Alternative 3), to both New Bedford and Fall River (former Alternative 4), and to

IGURE 1
tudy Area



Westport via New Bedford (former Alternative 5). Potential station sites corresponding to each of the five rail alternatives were identified in the cities and towns of Easton, Raynham, Taunton, New Bedford, Freetown, Fall River, Dartmouth and Westport. Station sitings, taking into account all identified site constraints, were generally found to be feasible. The bus alternative included enhanced bus services from Southeastern Massachusetts to Boston through frequency improvements and the construction of new park and ride facilities.

Although there were no prohibitive environmental constraints or other restrictions along the right-of-way identified in the course of the 1990 study, it was concluded that a full environmental review would likely be required prior to any service restoration.

A design speed of 79 miles per hour was assumed in order to offer a service that would be competitive with the existing express bus service. For each alternative considered, running times to South Station and ridership estimates were generated to aid in a determination of feasibility. The running time inbound to South Station was 1 hour 13 minutes from New Bedford, 1 hour 15 minutes from Fall River, and 1 hour 24 minutes from Westport. Express bus service running times to Boston were assumed to remain as existing, at approximately 1 hour from Taunton, 1 hour 30 minutes from New Bedford, and 1 hour 5 minutes from Fall River. Daily inbound rail boardings estimated for the year 2010 ranged from 2,580 for Alternative 1 to 4,310 for Alternative 4. For the bus alternative, year 2010 daily inbound boardings were estimated at 2,430.

The 1990 scheduling analysis was modeled subject to two constraints: the availability of only two approach tracks at South Station, and signal capacity constraints on the Attleboro Line allowing for train intervals of about eight minutes. The results showed that the feasibility of running branched service on Alternative 4 would be dependent on major improvements along the Attleboro Main Line such as signal systems, sidings, or additional track. All other alternatives were found to be operationally feasible, based on single track service with passing sidings located to accommodate reverse commuter trains. Double tracking would not be necessary unless the need for reverse commuter trains were increased. Also, further study of how the proposed service would integrate with the south side trains currently in service and of schedules for slotting into South Station was suggested.

An economic evaluation of each alternative's overall cost effectiveness, including operating, maintenance and capital costs, was presented in the 1990 report. In 1989 dollars, the costs associated with each alternative, including construction and rolling stock costs, were:

Alt. No.	Description	Capital Cost ($ mil.)	Annual Operating Cost ($ mil.)	Net Annual Cost ($ mil.)
1	Stoughton to Taunton	$163.9	$5.8	$16.8
2	Stoughton to New Bedford	$196.5	$5.9	$19.0
3	Stoughton to Fall River	$191.6	$6.7	$19.4
4	Stoughton to N.Bedford/F. River	$282.9	$11.9	$31.8
5	Stoughton to N. Bedford/Westport	$224.4	$6.0	$21.6
	Enhanced commuter bus	$14.5	$2.2	$2.0 *(est.)*

The operating and maintenance per passenger cost estimates for each alternative ranged from $1.68 for the bus alternative to $5.58 for Alternative 4.

C. DEVELOPMENT OF NEW OPTIONS

In February, 1991, the Joint Transportation Planning Group (JTPG) of the Southeastern Massachusetts Metropolitan Planning Organization presented a position statement on the 1990 MBTA Feasibility Study. The JTPG raised a number of issues related to alternative alignments that had not been studied. In response to requests made by the JTPG, the MBTA has revised and expanded the feasibility analysis to consider the following alternatives:

- Commuter rail service to Fall River and New Bedford via Middleborough and East Taunton using an extension of the Old Colony Middleborough Line.
- Extension of the Stoughton line only as far south as North Easton.
- Commuter rail service to Fall River and New Bedford via an extension of the Attleboro Secondary Track between Attleboro and Taunton (consideration of this alternative adds Norton and Attleboro to the study area.)
- Increased commuter bus service in the region.

Additional considerations made at the request of the JTPG include:

- Increased (unconstrained) parking at existing commuter rail stations along the Attleboro Line in Mansfield and Sharon, and along the Stoughton Branch in Stoughton.
- A base year assumption that High Occupancy Vehicle (HOV) lanes would be constructed on the Southeast Expressway. (This HOV lane is now under construction).
- A reevaluation of the costs associated with restoring commuter rail service.

Although extension of the Stoughton line only as far south as North Easton is evaluated in this Expanded Feasibility Study, an extension as far as Raynham was not considered as suggested by the JTPG. The level of investment required to restore the abandoned line between North Easton and Raynham is such that it would not be cost-effective without a further extension to Taunton, Fall River and/or New Bedford. An extension from Fall River to Newport, Rhode Island would require coordination and participation with the State of Rhode Island, as well as an act of the Legislature to extend service out of state; no such coordination was initiated as part of this study. Other requests made by the JTPG in their 1991 position statement will be considered as part of the full environmental analysis of commuter rail extension which would follow this expanded feasibility study.

Several other assumptions were changed from the 1990 report as shown in **Table 1**. The base year assumptions are described in detail as part of the No Action alternative. Additional modeling assumptions that differ from the 1990 report are described in **Appendix A**.

TABLE 1
Comparison of Assumptions in 1990 and 1994 Feasibility Studies

Basic Assumptions	1990 Feasibility Study	1994 Feasibility Study
Rail Alternatives	- extension of Stoughton Branch only - included service to Westport via New Bedford	- extension of Stoughton, Middleborough and Attleboro Lines - Westport service dropped
Rail Stations	- stations in Dartmouth and Westport	- new station in Lakeville - unconstrained parking at Mansfield and Sharon (Alternative 5); as well as Stoughton (Alternative 3)
Bus Alternative	- increased headways - new park-ride facilities	*same as 1990, enhanced with:* - use of HOV lane on I-93 - free transfers to MBTA transit - fares same as commuter rail
Bus Stations	- same as existing	- new stops in Freetown, East Taunton
Operating Assumptions	- 79 mph operating speeds	- 70 mph operating speeds - assumes Amtrak improvements along Northeast Corridor are in place

II. EXISTING CONDITIONS

A. EXISTING AND PLANNED TRANSPORTATION SERVICES

Passenger rail service in the study area is currently provided only as far as Stoughton from South Station via the Stoughton Branch. Rail service also operates to Providence, Rhode Island, via Attleboro, and in 1996 will operate to Middleborough via Braintree. The remainder of southeastern Massachusetts is serviced by three major bus carriers.

1. Existing Commuter Rail Service

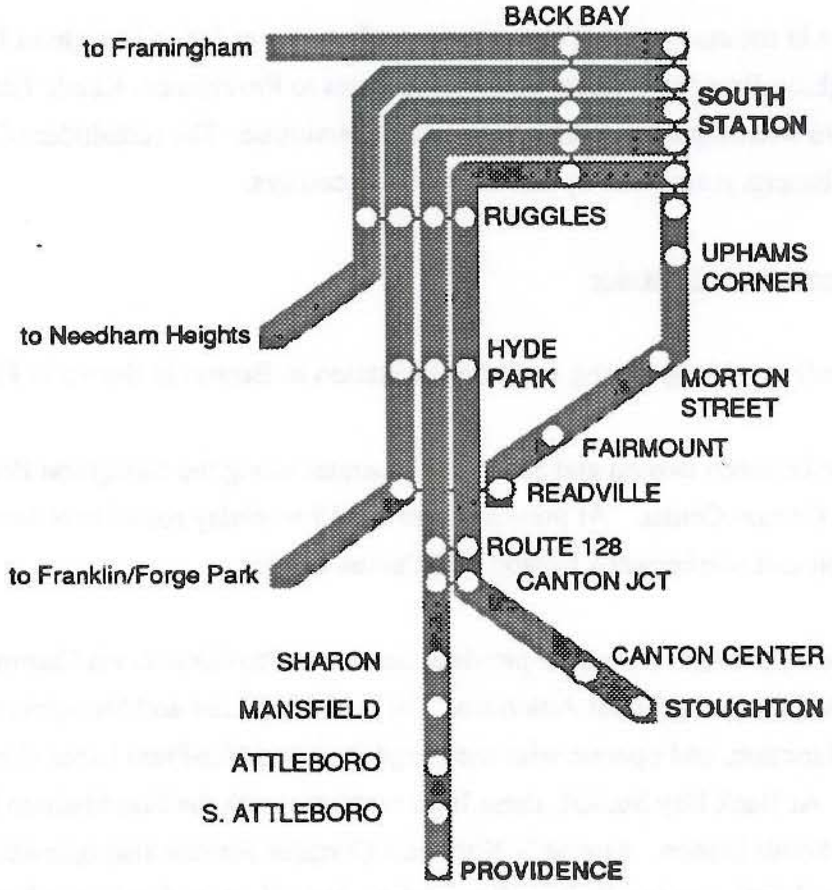
Existing commuter rail service operating from South Station in Boston is shown in **Figure 2.**

Passenger rail service between Boston and Stoughton operates along the Stoughton Branch via Canton Junction and Canton Center. At present, there are 15 weekday round trips between Boston and Stoughton and one between Boston and Canton Center.

Passenger rail service on the Attleboro Line provides service to Providence, via Canton Junction, Sharon, Mansfield, Attleboro and South Attleboro. The Attleboro Line and Stoughton Branch converge at Canton Junction, and operate with the Forge Park and Needham Lines along Boston's Southwest Corridor. At Back Bay Station, these lines converge with the Framingham Line and continue on to serve South Station. Amtrak's Northeast Corridor Service also operates along the Attleboro Line (Shore Line), serving Boston, Providence, New York and points in between.

Passenger service to Providence is operated by the MBTA under the Pilgrim Partnership Agreement. Under this interstate agreement on commuter rail service, the Rhode Island Department of Transportation (RIDOT) provided capital funds for the purchase of rail rolling stock, and in return, the MBTA operates five daily trains to Providence. This agreement is expected to be amended and extended in the spring of 1995. In November, 1994, RIDOT prepared a *Rail Corridor Feasibility Study*. This report recommended consideration of extending local rail service south from Providence, along Amtrak's Shore Line.

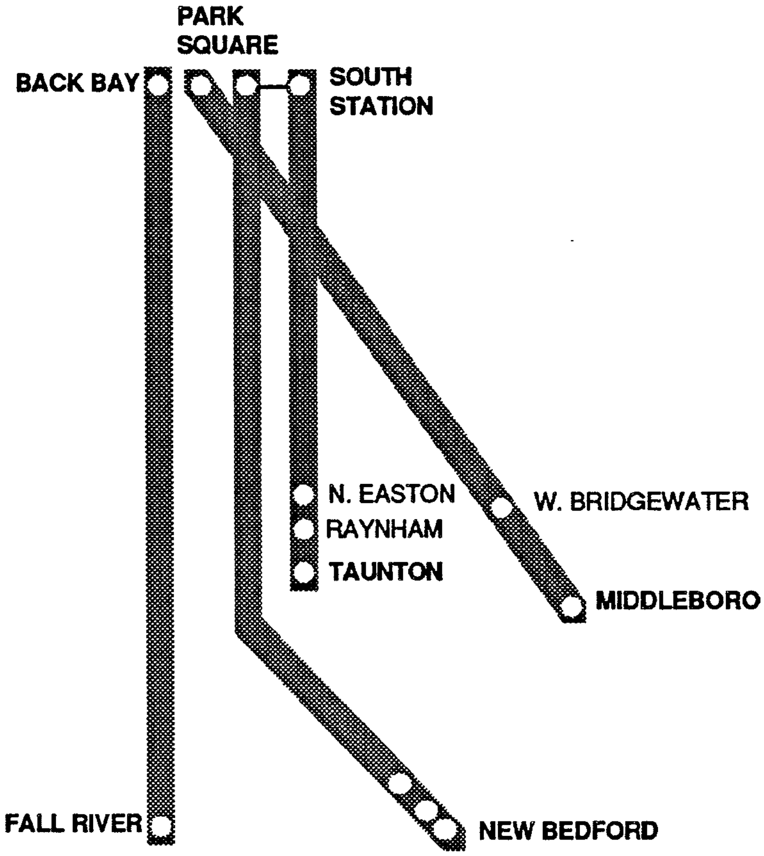
FIGURE 2
Existing MBTA Commuter Rail Service from South Station



2. Existing Commuter Bus Service

Most of the communities that would be served by the New Bedford and Fall River commuter rail extensions now have some form of direct bus service to Boston (see **Figure 3**), operated by private carriers. Of the communities being considered for new commuter rail stations, only Freetown does not have some direct bus service to Boston.

FIGURE 3
Existing Commuter Bus Service in Southeastern Massachusetts



American Eagle Motor Coach operates a route from New Bedford to Boston. During off-peak hours, buses on this route also stop in Taunton. Bonanza Bus Lines operates a route from Fall River to Boston, with no intermediate stops. Most trips on this route originate from Newport, Rhode Island. Bloom's Bus Lines, Inc. operates a route from Taunton to Boston, also serving parts of Raynham and Easton. Some off-peak service to Easton is also provided by a route between Middleborough and Boston operated by Interstate Coach. Each of these routes is described in greater detail below.

New Bedford Route

Weekday buses on this route originate at a park-and-ride lot at the American Eagle garage on Sycamore Street in North Fairhaven, and run via local streets to the Southeastern Regional Transit

Authority (SRTA) bus terminal at Elm and Pleasant Streets in downtown New Bedford. Connections are available there to 14 local bus routes serving New Bedford and surrounding towns. A Bonanza Bus Lines route between Providence and Cape Cod also serves this terminal.

Buses then follow U.S. Route 6 to state Route 140, stopping at the intersection of these highways before proceeding north on Route 140. A final New Bedford stop is made at a MA Highway Department park-and-ride lot on Mount Pleasant Street near Route 140 Exit 4. Most peak-period trips then run non-stop on Routes 140, 24, and I-93 (the Southeast Expressway) to downtown Boston, ending at the Peter Pan Trailways Terminal near South Station. All off-peak trips and a few peak trips make an additional stop at the Silver City Galleria Mall at Routes 140/24 in Taunton.

At present, there are 16 inbound and 17 outbound weekday trips between the Fairhaven terminal and Boston, plus one inbound AM peak trip originating at the Galleria. Headways range from 15 to 45 minutes in peak hours, and from 2 to $2^1/_2$ hours off-peak. The scheduled running time inbound between downtown New Bedford and downtown Boston is 1 hour, 45 minutes on most peak trips, and 1 hour, 30 minutes on most off-peak trips. Outbound scheduled times are slightly faster. Seven round trips are run between New Bedford and Boston on Saturdays, and five on Sundays.

In the past, some trips on the New Bedford route were funded through the MBTA/EOTC Interdistrict Transportation Service Program , but this funding was discontinued in 1993. Prices of 10-ride and 40-ride tickets were subsequently increased by about five percent.

Fall River Route

Buses on this route use the SRTA Fall River bus terminal on Second Street. Connections are available there with 13 local bus routes serving Fall River and surrounding communities, and with Bonanza Bus Lines service to Providence and Cape Cod, but the Boston buses make no other stops in Fall River. After leaving the Fall River terminal, buses run non-stop via Routes I-195, 24, and I-93 to downtown Boston. Back Bay Station is currently the terminal and only Boston stop for the Fall River bus route.

At present, there are eight round trips on the Fall River route on weekdays, and six on Saturdays and Sundays. All trips run through to or from Newport, Rhode Island except for two AM peak inbound and two PM peak outbound trips that run between Fall River and Boston only. The scheduled inbound running time between Fall River and Boston is 1 hour, 5 minutes for peak trips, and 1 hour for off-peak trips. An additional 35 to 40 minutes is scheduled between Newport and Fall River.

South of Fall River, buses run mostly on Mass. and Rhode Island Route 138. Stops are made in Portsmouth and Middletown, Rhode Island, but no stops are made in Massachusetts south of the Fall River SRTA terminal.

Taunton Route

Most trips on this route use the Bloom Bus Terminal on Oak Street in downtown Taunton. From there they proceed on local streets to Route 138, and then follow Routes 138, 106, 24, and I-93 to downtown Boston. Intermediate stops are made at the Raynham Park Dog Track on Route 138, where commuter parking is available, and at the intersection of Routes 138 and 106 in Easton. The Peter Pan Trailways Terminal is the only stop in Boston. At present, 15 inbound and 14 outbound trips are run between Taunton and Boston on weekdays.

Five of the inbound trips and four of the outbounds, mostly in peak hours, continue beyond the Bloom Bus Terminal to the Silver City Galleria Mall at Routes 140 and 24 in Taunton. Two of these inbound trips and all four of the outbounds continue further to Route 140 at Route 79 in East Taunton.

Five round trips are run between Taunton and Boston on Saturdays and Sundays, with no extensions beyond the Bloom Terminal. This route is subsidized by the MBTA/EOTC Interdistrict Transportation Service Program.

Middleborough Route

Most trips on the Middleborough-Boston route run via Routes 28 and 106, to Route 24 in West Bridgewater, then continue non-stop via Routes 24 and I-93 to downtown Boston. These trips do not stop in any community that would be on a New Bedford/Fall River commuter rail extension.

A few Middleborough-Boston trips are run on a route variation serving Easton and Stoughton. Buses on this variation continue on Route 106 past Route 24 to Route 138, which they follow to Route 139 at Stoughton Center. They then follow Route 139 to Route 24, where they return to the regular Middleborough-Boston alignment. On Route 138, stops are made at Route 123 and at Main Street in Easton, and at Plain Street and Stoughton Center in Stoughton. At present, one off-peak morning inbound trip is scheduled to use this variation. Outbound, one morning trip and one evening trip after the PM peak use this variation if there are any passengers for the stops it serves. Schedules do not show running times between Boston and any of these stops. The Boston terminal for the Middleborough routes is at Arlington and Stuart Streets, near Park Square. All trips also stop the corner of Beach and Lincoln Streets, near South Station.

3. Planned Transportation Services in the Service Area

Several transportation improvement projects that may benefit commuters in the greater New Bedford/Fall River area are currently under construction or planned as part of the region's long range transportation planning process.

The Old Colony Commuter Rail Project involves the restoration of commuter rail service on three lines - Middleborough, Plymouth and Greenbush - that were discontinued in 1959. The Middleborough and Plymouth lines are now under construction and are expected to be operational in 1996. Additional environmental studies are now being performed on the Greenbush line.

Planned highway improvement projects include the Central Artery/Third Harbor Tunnel project, the completion of Route 44, the widening of Route 3 between Weymouth and Duxbury, and the construction of a High Occupancy Vehicle (HOV) lane along I-93 and the Southeast Expressway from Route 18 in Weymouth to downtown Boston.

As part of the Central Artery Mitigation Program, it is required that park-and-ride facilities in the metropolitan region include 10,000 new spaces by the end of 1996 and an additional 10,000 by 1999. Although much of the 1996 commitment will be met by the construction of Old Colony Line stations, locations throughout the region are being evaluated to identify possible sites for parking expansion. Possible expansion in southeastern Massachusetts includes additional commuter parking at rail stations along the existing Attleboro, Franklin and/or Stoughton lines.

A new regional bus terminal is currently under construction as part of the South Station Transportation Center in Boston. This terminal will replace the neighboring Peter Pan Trailways terminal and will become the new Boston terminal for all New Bedford and Taunton bus services.

B. EXISTING AND ABANDONED RAIL CORRIDORS IN THE STUDY AREA

New Bedford, Fall River and Taunton were among the earliest communities in Massachusetts to receive rail service. Immediately prior to the discontinuance of service in 1959, trains for both New Bedford and Fall River operated via the route of the present Stoughton commuter rail line between South Station and Stoughton. They then continued via a now-abandoned line through Easton and Raynham to Whittenton Junction in Taunton, where they joined the present Conrail route that runs from Attleboro to Middleborough. Trains used this route as far as Cotley Junction in Taunton, where they headed south onto the present Conrail New Bedford Secondary Track. Fall River trains then diverged at Myricks onto the present Newport Secondary Track.

The following section describes the existing and abandoned rail corridors used to provide both passenger and freight service to these communities, and summarizes the history of train routing through these corridors. These rail corridors are shown in **Figure 4**.

1. Attleboro Line/Shoreline

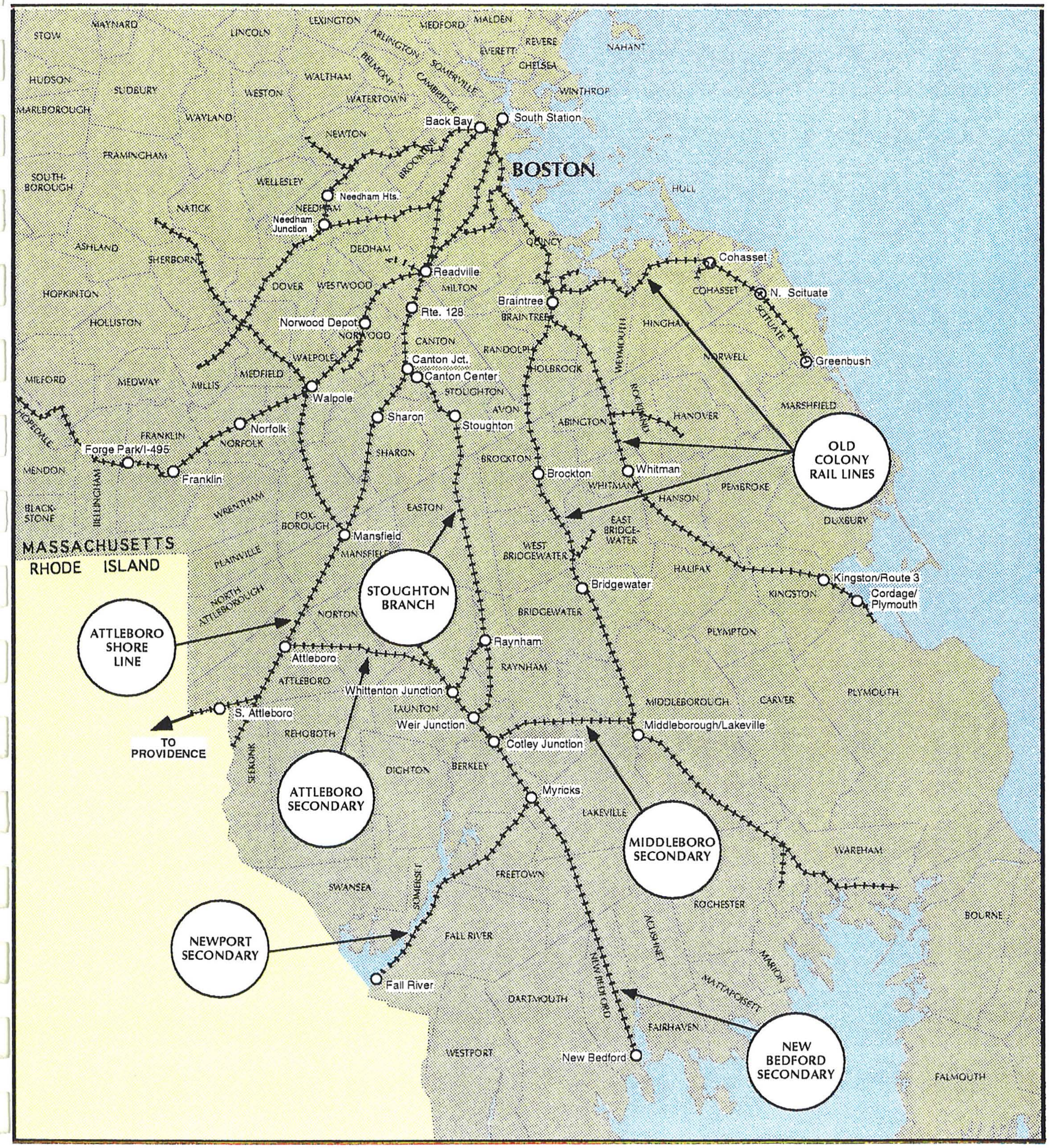
The Boston & Providence Railroad was completed between a terminal at Park Square in Boston and Providence in 1835. This line is now operated as the MBTA's Attleboro Line and Amtrak's Shore Line.

MBTA commuter rail service along the Attleboro Line provides passenger service to Providence via Canton Junction, Attleboro and other intermediary stops. Amtrak's Northeast Corridor Service from Boston to New York is operated along this same line (the Shore Line).

2. Taunton Branch Railroad/New Bedford Secondary

In 1836, the Taunton Branch Railroad opened a line from the Boston & Providence (MBTA Attleboro Line) at Mansfield Station through Norton to Taunton Center. Another company, the

FIGURE 4
Rail Corridors in the Study Area



New Bedford & Taunton Railroad, continued the Taunton Branch to New Bedford in 1840. This was the origin of the present Conrail line from Taunton through Cotley Junction and Myricks to New Bedford. Passenger trains were run from New Bedford to Mansfield, with through or connecting service to Boston (see **Photo A**).

PHOTO A
Cotley Junction Looking North along New Bedford Secondary

The section of rail from northern Taunton (Whittenton Junction) to New Bedford is currently used only for freight operations and is known as Conrail's New Bedford Secondary Track. The section north of Whittenton Junction to Mansfield is abandoned. A short section of this was replaced in the late 1970's to serve the Myles Standish Industrial Park in Taunton.

3. Fall River Branch Railroad/ Newport Secondary Track

Rail service to Fall River was first established in 1845 by the Fall River Branch Railroad, which ran from a connection with the New Bedford & Taunton at Myricks to Fall River (see **Photo B**). This was the origin of Conrail's Newport Secondary Track. In 1846, the Fall River Railroad completed an extension from Myricks to South Braintree via Middleborough and Brockton. Boston to Fall River passenger service was run via the new route upon its completion.

PHOTO B
Myricks Junction: New Bedford and Newport Secondaries Diverge

The Fall River Railroad merged with the Old Colony in 1854, as the Old Colony & Fall River Railroad; the section from Middleborough to South Braintree is the route now being restored by the

MBTA for Middleborough commuter rail service. The segment between Middleborough and Myricks was abandoned in the 1930's. The segment from Myricks to Fall River, part of Conrail's Newport Secondary Track, is currently used only for freight operations.

4. Stoughton Branch

The rail line between Canton Junction and Stoughton, now the MBTA's Stoughton Branch, was opened in 1845 by the Stoughton Branch Railroad. It was extended to North Easton in 1855.

In 1863, the Dighton & Somerset (D&S) Railroad was built to provide a more direct route between Boston and Fall River. As built, the D&S diverged from the original Fall River route at Somerset Junction and traveled north crossing the New Bedford & Taunton route at Weir Junction in Taunton. From there, it ran north through Raynham and Easton, joining the Easton Branch Railroad, and continuing through North Easton to Stoughton. From Stoughton Junction, the D&S followed a new line through Randolph to Braintree Highlands, while the Stoughton Branch Railroad continued through to Canton Junction.

In the 1870's, a new link was built (by the Old Colony Railroad which had merged with the New Bedford to Taunton, Attleboro to Taunton, and Taunton to Middleborough lines) to make a more convenient connection to downtown Taunton from Raynham Station on the D&S to Whittenton Junction on the former Taunton Branch Railroad. From then on, most trains running between Boston and Fall River were diverted via Whittenton Junction, and stopped at Taunton Central Station. New Bedford and Fall River trains then shared the old New Bedford &Taunton between there and Weir Junction.

Passenger rail service on this line still operates from Boston to Stoughton. The right-of-way between Stoughton and Taunton was taken out of service in 1959 and formally abandoned in 1966. The portion of the Dighton & Somerset line between Easton and Whittenton Junction was abandoned in 1966, and the segment from Weir Village in Taunton to Dighton in 1971. Only a short segment of the D&S route north of Weir Junction is currently in operation for freight movement (owned by EOTC and operated by Bay Colony Railroad); these operations are south of the junction where a Stoughton extension would diverge to Whittenton Junction in Taunton.

5. Middleborough & Taunton Railroad/Middleborough Secondary

The Middleborough & Taunton (M&T) Railroad opened in 1856 from Cotley Junction in Taunton (see **Photo C**) to the Old Colony & Fall River Line at Middleborough (see **Photo D**). Trains were run from Middleborough to Taunton Station, making connections with Taunton Branch trains to Mansfield, which in turn connected with Boston service.

The M&T line is currently known as the Middleborough Secondary. It is owned by EOTC and used by Conrail freight trains and Amtrak summer weekend trains from New York to Cape Cod.

PHOTO C
Cotley Junction: Middleborough and New Bedford Secondaries Diverge

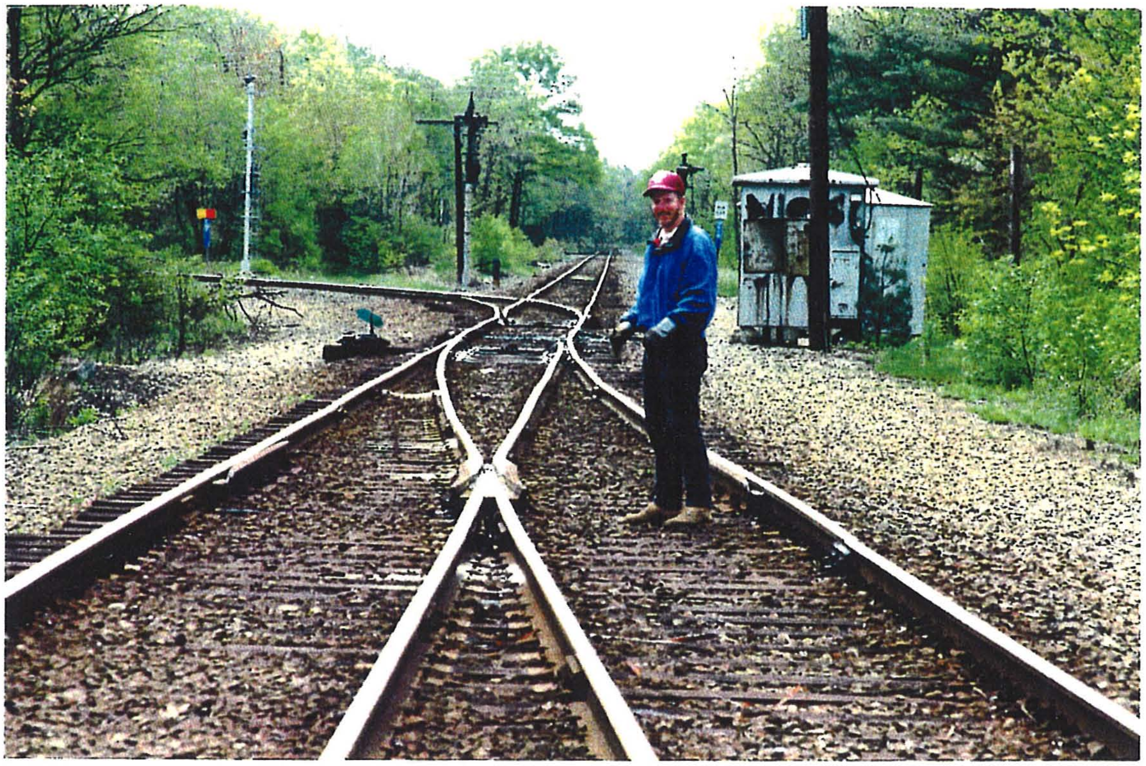


PHOTO D
Middleborough Secondary Right-of-Way in Lakeville

6. Attleboro/Taunton Route

In 1871, the East Attleboro Branch was built from just north of Attleboro Station on the Boston & Providence Main Line (MBTA Attleboro Line) to the original Taunton Branch at Attleboro Junction in Taunton. Like the Middleborough Secondary, it is now owned by EOTC and serves Conrail freight trains and summer Amtrak service to Cape Cod. Because it was designed for traffic to and from points south of Attleboro, it never had track connections allowing trains to go to or from Boston without reversing direction, and was never part of a through passenger service route from Boston.

7. Historical Summary of Train Routings from New Bedford, Fall River and Taunton

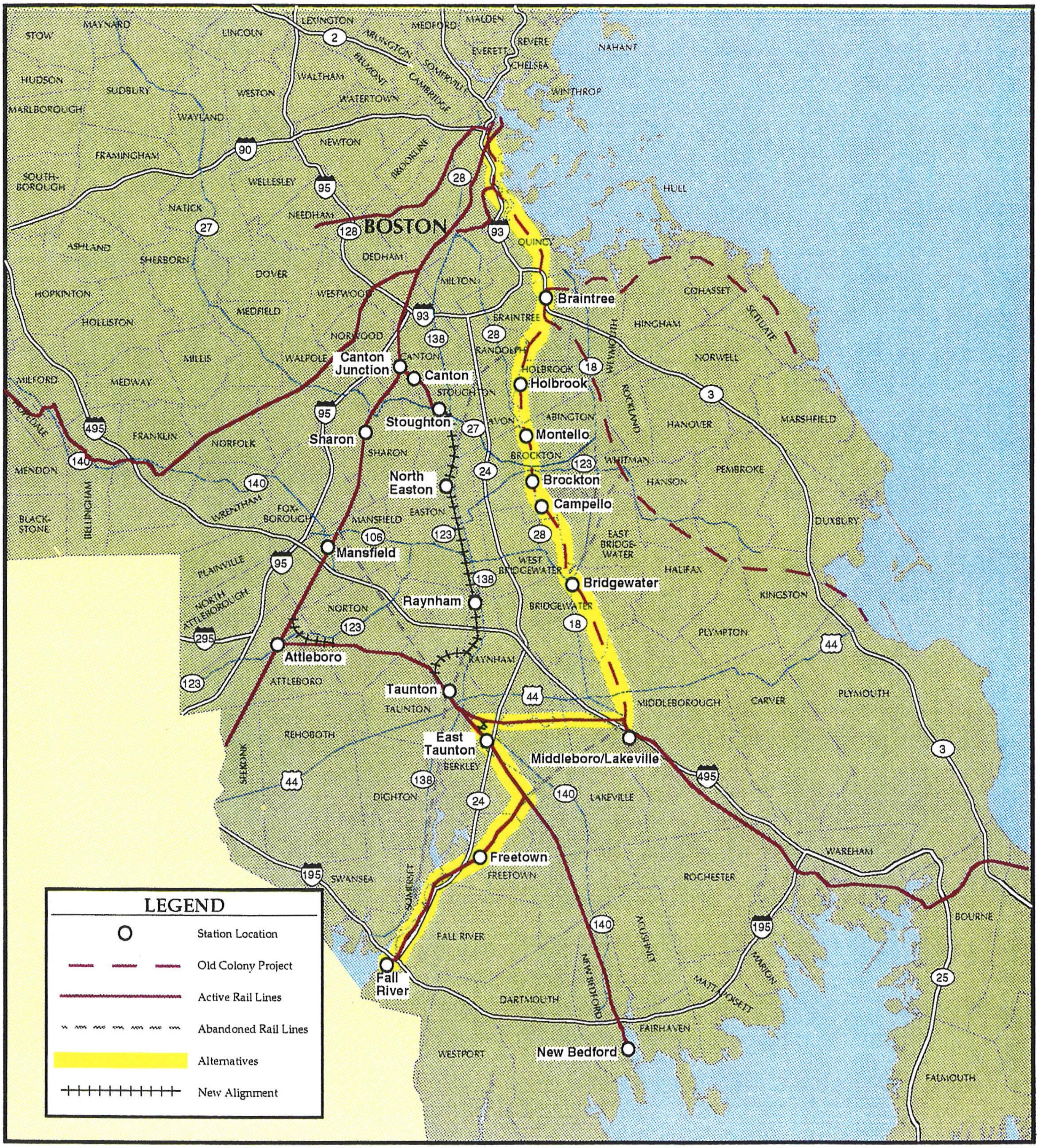
As on most of the Boston commuter rail system, service to New Bedford and Fall River reached its all-time peak around the turn of the century. New Bedford and Fall River were each served by 14 round trips to Boston on weekdays. In addition to New Bedford and Fall River service, there were three trains each way between Boston and Taunton via Mansfield, more than six roundtrip trains between Canton Junction and North Easton, and one inbound between Easton and Canton Junction. Another four roundtrip trains ran between Canton Junction and Stoughton. Additional service to Easton and North Easton was provided via Randolph.

Many changes in passenger train routing between Boston and New Bedford and Fall River occurred between 1910 and the 1950's. In the 1920's, all service from Boston to Taunton via Randolph, and to New Bedford and Fall River via Mansfield, was rerouted via Stoughton. The Taunton River drawbridge on the D&S line at Somerset Junction was taken out of service in 1932, after which all Fall River trains followed the New Bedford route to Myricks and the original Fall River route south of that. The Taunton Branch to Mansfield was permanently severed by a grade-crossing elimination project in 1955, putting an end to passenger service on that branch.

In 1958, towards the end of New Bedford and Fall River service, inbound boardings averaged 80 passengers a day at New Bedford, 30 at Fall River, 125 at Taunton, and 150 at North Easton. Due to excess losses, the New Bedford and Fall River trains were all cut back to Boston-Stoughton service only. A year later the Stoughton service was reduced to two round trips a day.

The MBTA gradually began subsidizing Boston commuter rail service in 1966, but the Stoughton Branch was not included until 1973. In January 1973, the MBTA bought 145 miles of active and abandoned rights of way from Penn Central, including the Stoughton Branch and the line from Stoughton to Whittenton Junction. In 1976, all Penn Central freight service was either taken over by Conrail, transferred to other operators, or abandoned. This resulted in the end of freight service on the MBTA-owned line between Stoughton and Easton.

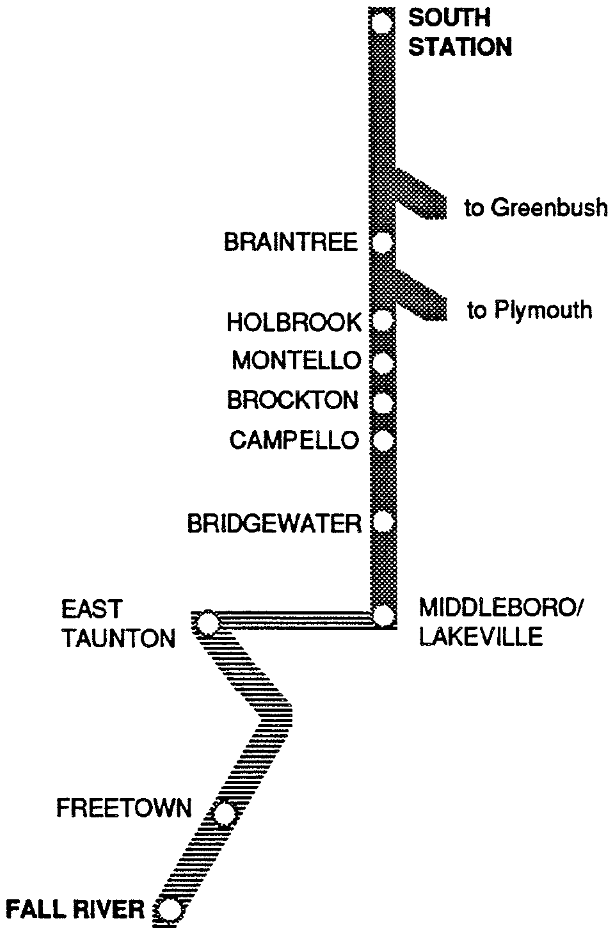
FIGURE 5
Alternative 1:
Extension of the Middleboro Line to Fall River



2. Alternative 1: Fall River to South Station via the Middleborough Line

This alternative (**Figure 5**) would extend service along the Old Colony Middleborough Line. The service would branch from the Old Colony Line just north of Lakeville Station, following the Middleborough Secondary track to East Taunton (Cotley Junction), and then continuing south towards Fall River using the New Bedford Secondary and Fall River Secondary tracks. This option assumes that service to Fall River can be implemented by extending Boston to Middleborough trips further south (see **Figure 5A**), an extension of about 23 miles.

FIGURE 5A
Alternative 1 - Fall River to South Station via Middleborough Line with Relocated Lakeville Station



The Middleborough Secondary Track was upgraded in the early 1980s and is currently used by Conrail freight and Amtrak summer trains. Some track rehabilitation would be required to increase speeds and improve grade crossings. Freight service on the New Bedford Secondary and Newport Secondary tracks is infrequent and these segments would need to be totally rebuilt. A small section (400 ft.) of new track would be built at Cotley junction to construct a wye, thus enabling trains to turn from the New Bedford Secondary track to the Middelborough Secondary.

This alternative would involve relocating Lakeville station, from its originally planned location as part of the Old Colony Project, to a point north of the Middleborough Secondary junction. New stations would also be built in East Taunton, Freetown and Fall River. The East Taunton station would be a major park-and-ride facility. The terminus would be located at Battleship Cove in downtown Fall River. Service would be provided from Fall River every 30 minutes during peak periods with two hour service in the off-peak. Total travel time to South Station would be 1 hour and 26 minutes.

3. Alternative 1A: Fall River to South Station via Middleborough with a Reverse move

This option (**Figure 6**) is the same as Alternative 1, except that Lakeville Station would be retained at its original Old Colony location. To serve this station, trains would be required to make a reverse move at the intersection of the Middleborough Secondary and the Old Colony Line (see **Figure 6A**). A short section of new track would be required to complete this wye. The total travel time from Fall River to South Station would be 1 hour and 36 minutes, approximately 10 minutes longer than Alternative 1, due to the reverse move required at Lakeville.

4. Alternative 2: New Bedford to South Station via the Middleborough Line

This alternative (**Figure 7**) is similar to Alternative 1 except that, south of East Taunton, this option would continue on the New Bedford Secondary Track to New Bedford. This represents an extension of about 26 miles from the Old Colony Line. Service would be provided from New Bedford every 30 minutes during the peak periods with two hour service in the off-peak.

FIGURE 6
Alternative 1A:
Extension of the Middleboro Line to Fall River (Reverse Move)

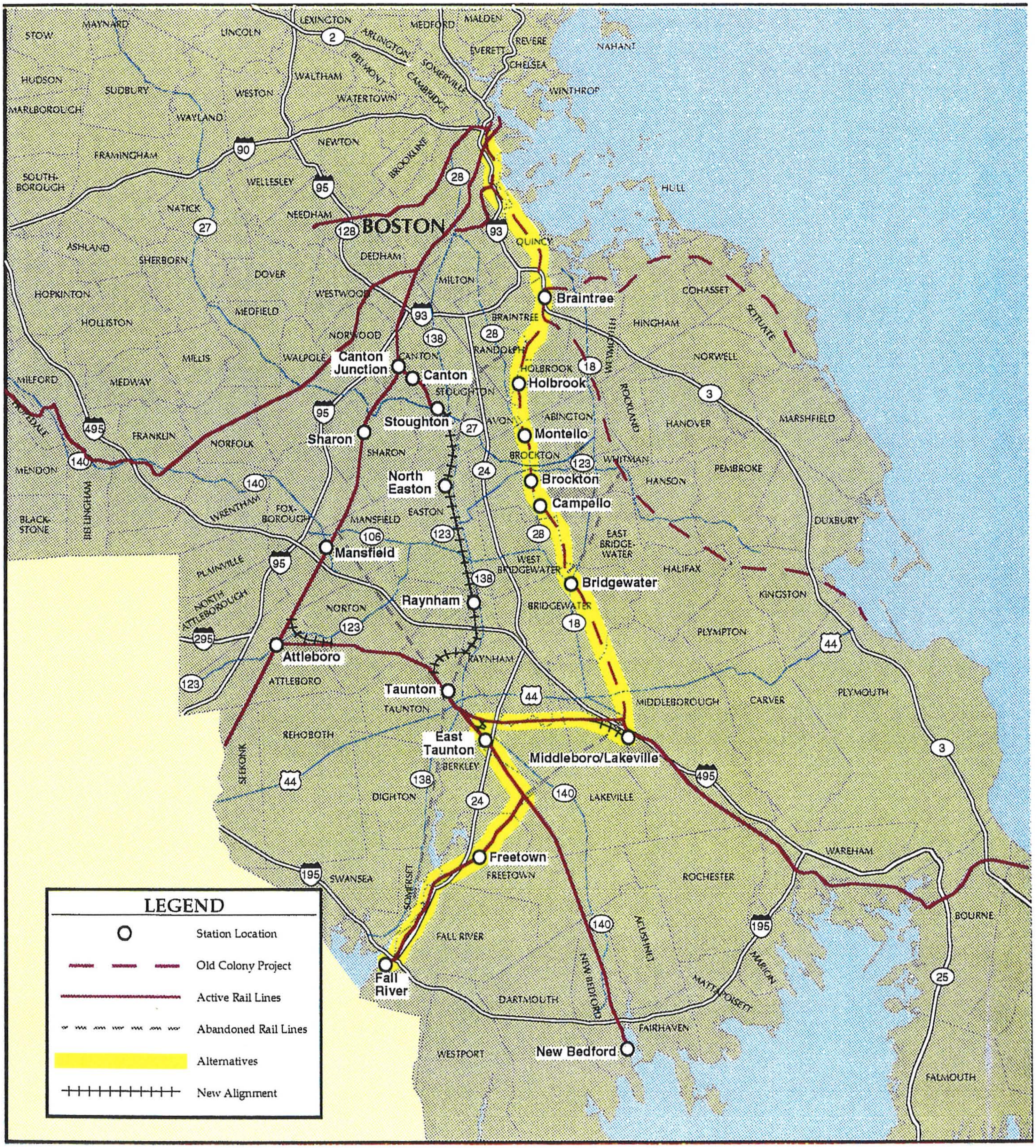
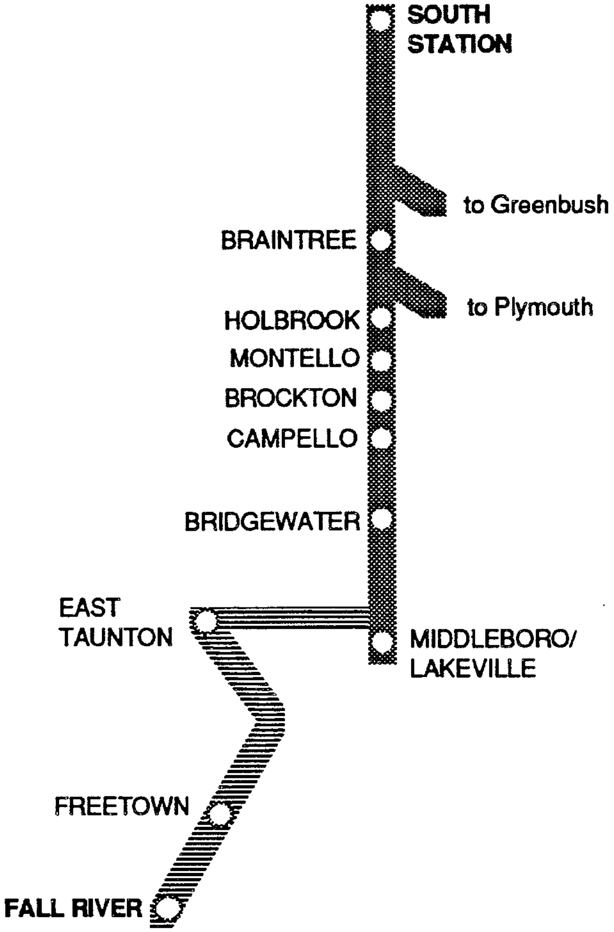


FIGURE 6A
Alternative 1A- Fall River to South Station via Middleborough with a Reverse Move at Lakeville



This alternative assumes the relocation of Lakeville station as described for Alternative 1 (see Figure 7A). New stations would also be built in East Taunton and New Bedford. The New Bedford terminus is proposed for a former Conrail yard on east side of downtown New Bedford, along Herman Melville Boulevard, with accommodation for 1,000 parking spaces. Total travel time from New Bedford to South Station would be 1 hour and 24 minutes.

FIGURE 7
Alternative 2:
Extension of the Middleboro Line to New Bedford

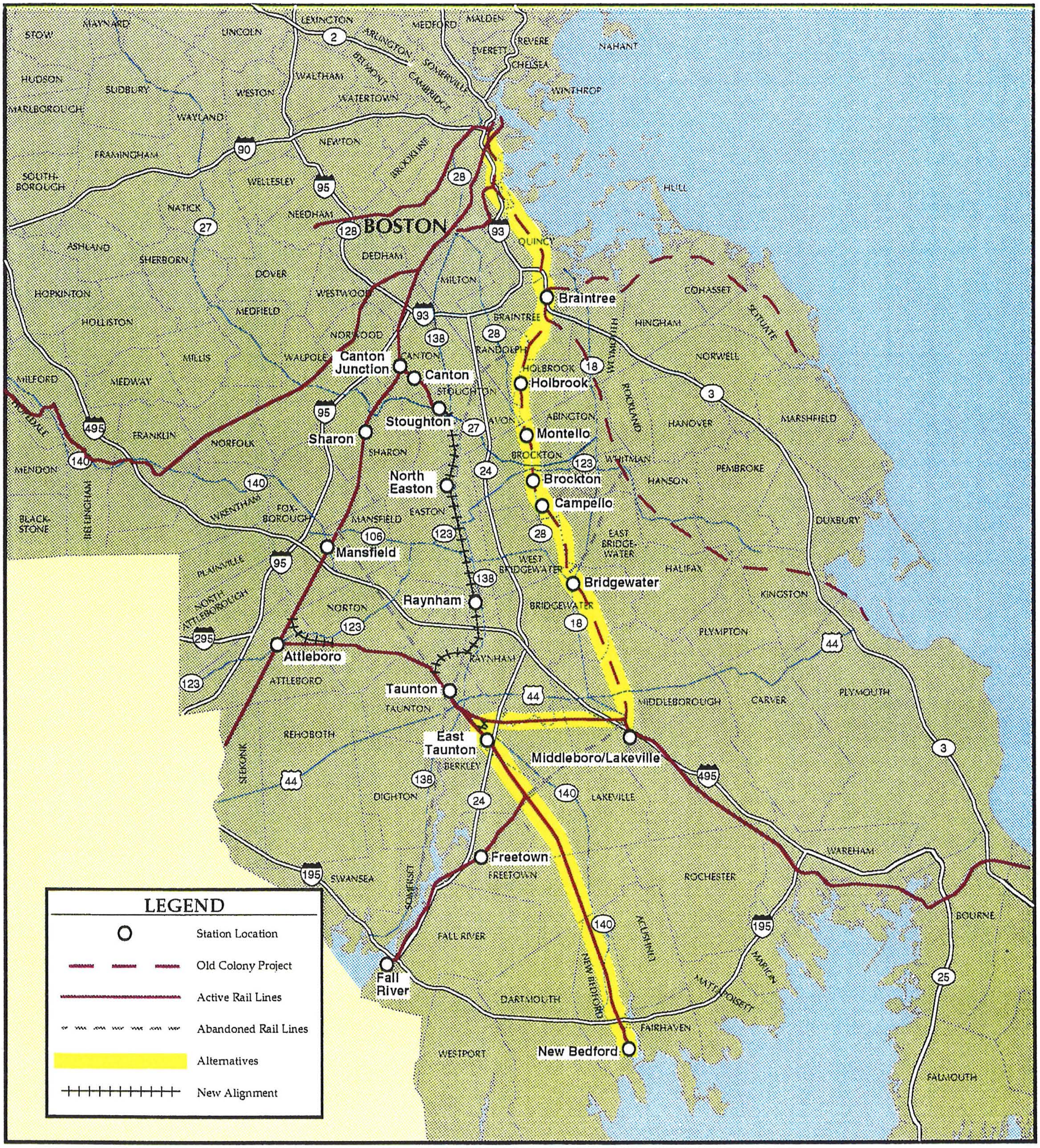


FIGURE 8
Alternative 2A:
Extension of the Middleboro Line to New Bedford
(Reverse Move)

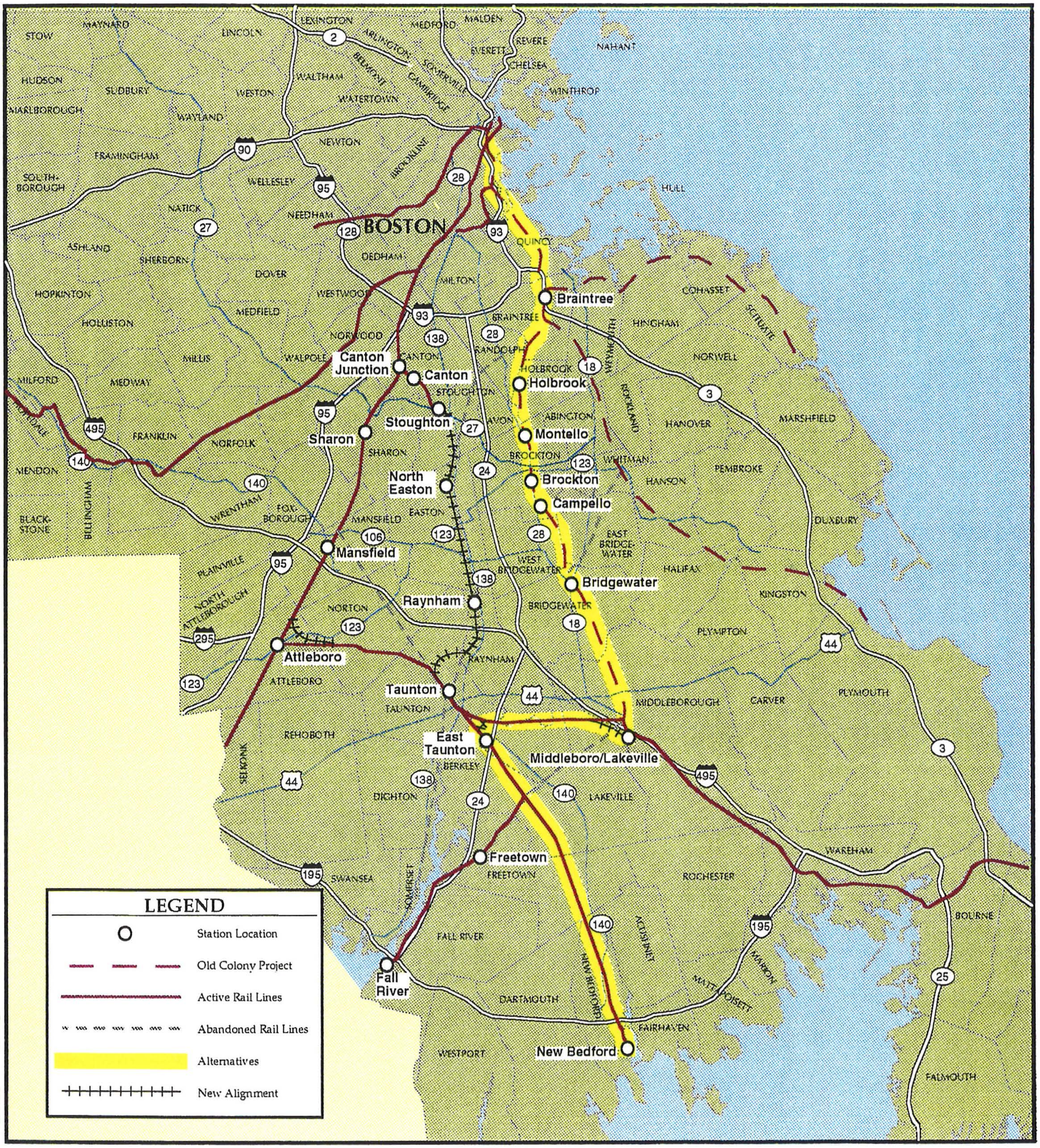
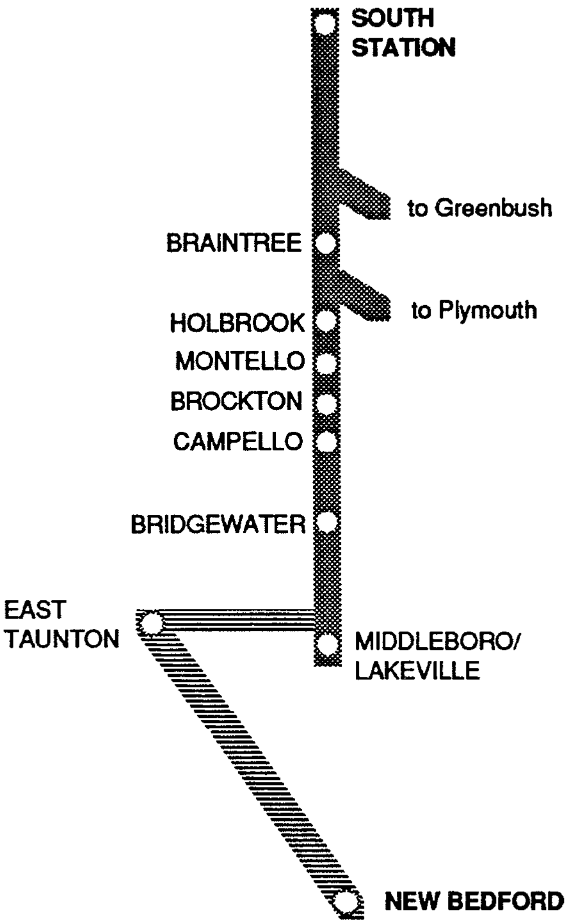


FIGURE 8A
Alternative 2A- New Bedford to South Station via Middleborough with Reverse Move at Lakeville



6. Alternative 3: North Easton to South Station via the Stoughton Branch

This alternative (**Figure 9**) involves the shortest extension developed as part of this study. Using the Stoughton Branch, service would be extended from the existing Stoughton station to a new station in North Easton (**Figure 9A**). This represents an extension of about $2^1/_2$-miles. The travel time from North Easton to South Station would be about 32 minutes. Service would be provided from North Easton every 30 minutes during the peak periods with two hour service in the off-peak.

FIGURE 9
Alternative 3:
Extension of the Stoughton Line to North Easton

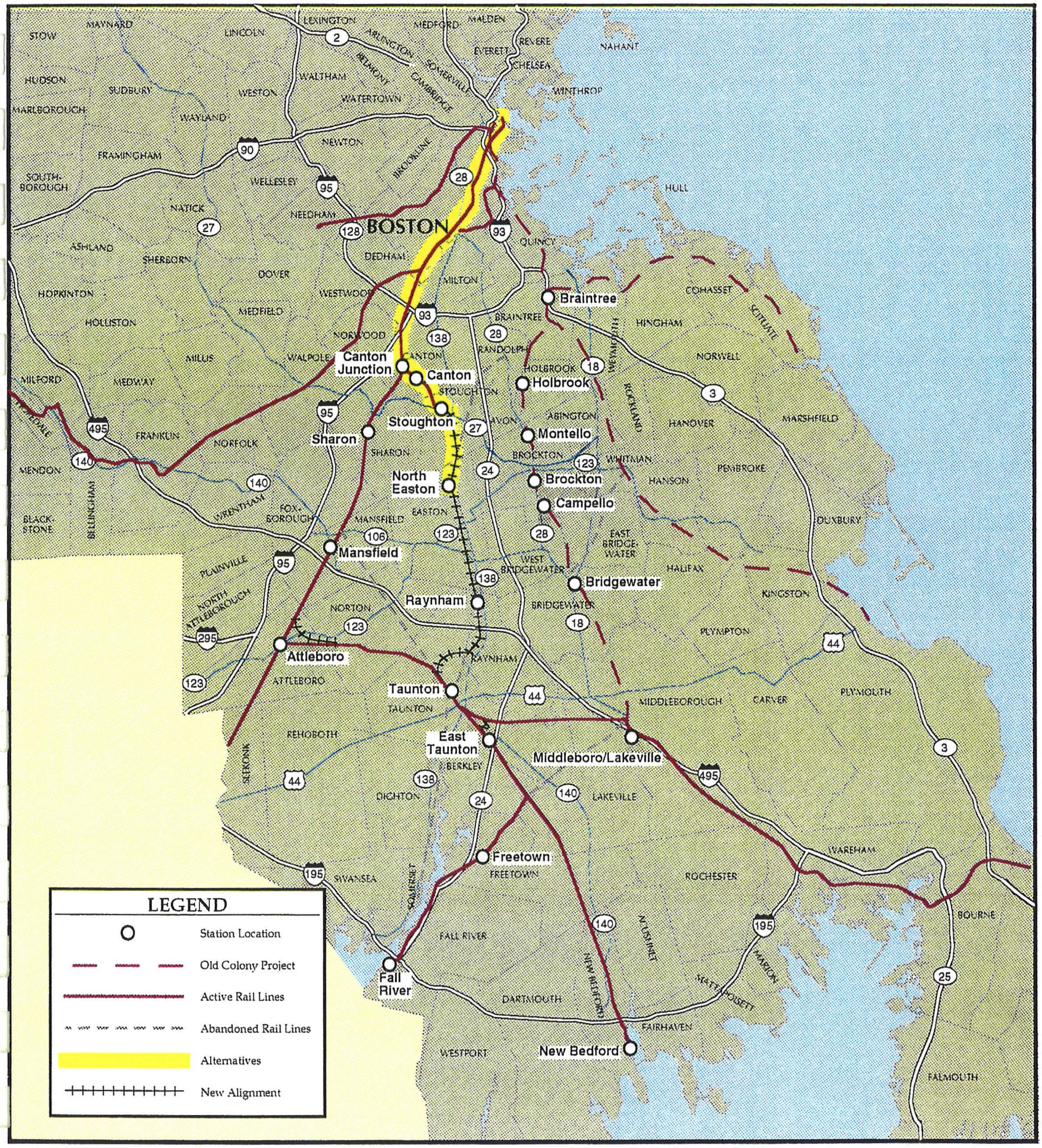
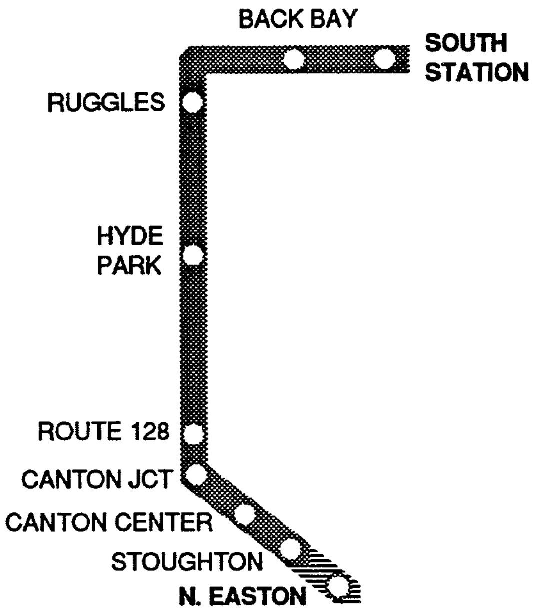


FIGURE 9A
Alternative 3 - North Easton to South Station via Stoughton



The railroad right-of-way between Stoughton and Taunton was taken out of service in 1959 and formally abandoned in 1966. Complete track and roadbed reconstruction to meet current MBTA standards would be required for use of this section of the line.

The only new station would be at North Easton; however, this alternative assumes the commuter parking capacity at Mansfield, Sharon and Stoughton stations would be unconstrained.

7. Alternative 4: New Bedford and Fall River to South Station via the Stoughton Branch

This alternative (**Figure 10**) would involve an extension of the current Stoughton branch about an additional 47 miles to serve both New Bedford and Fall River. The new service from New Bedford and Fall River would be provided in addition to the existing service from Stoughton (**Figure 10A**). The Stoughton Branch would extend through Whittenton Junction on the west side of Taunton, travel through Taunton Center to Cotley Junction where East Taunton station would be located, then diverge to Fall River and New Bedford.

FIGURE 10
Alternative 4: Extension of the Stoughton Branch to Fall River and New Bedford

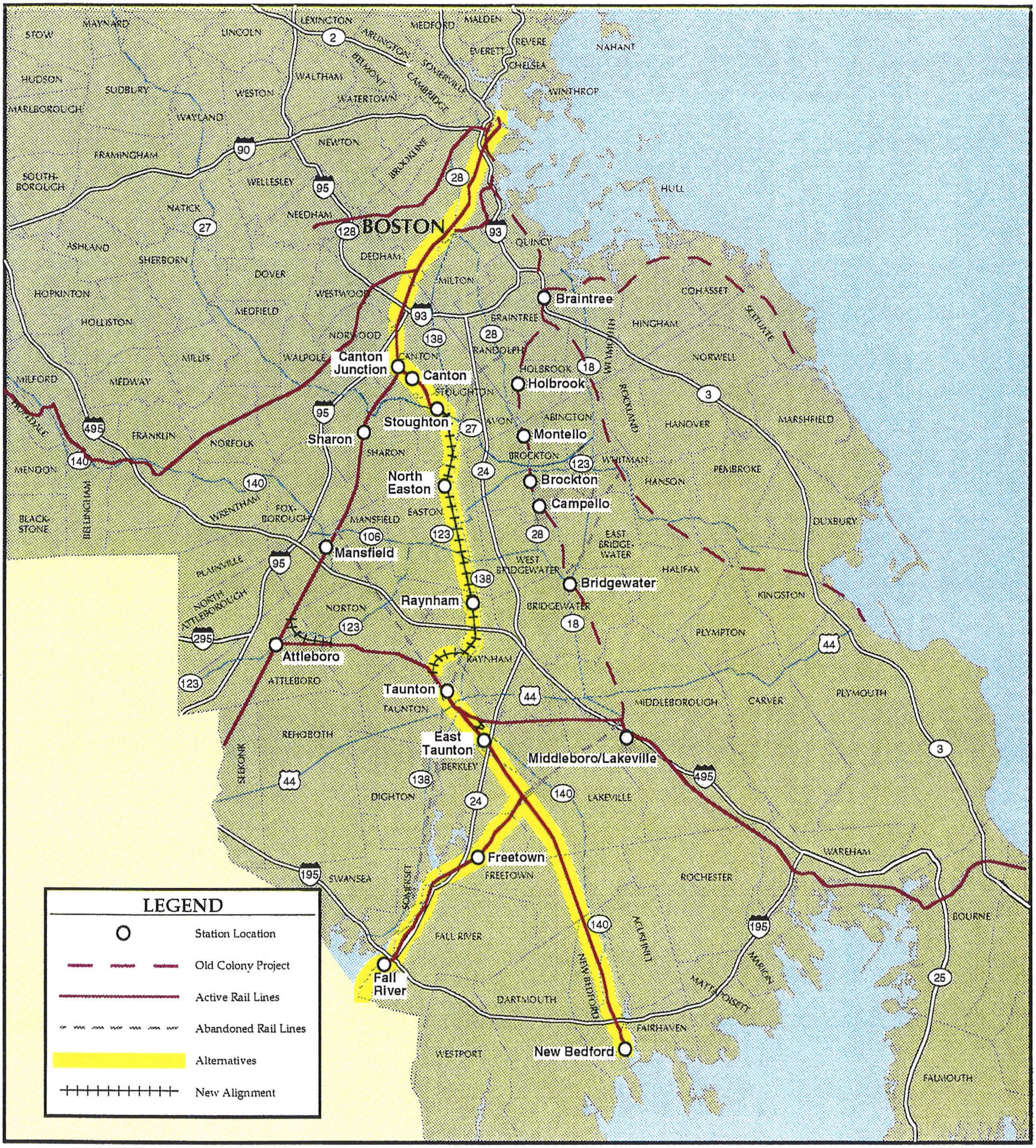


FIGURE 11
Alternative 5:
Extension of the Attleboro Branch to New Bedford and Fall River

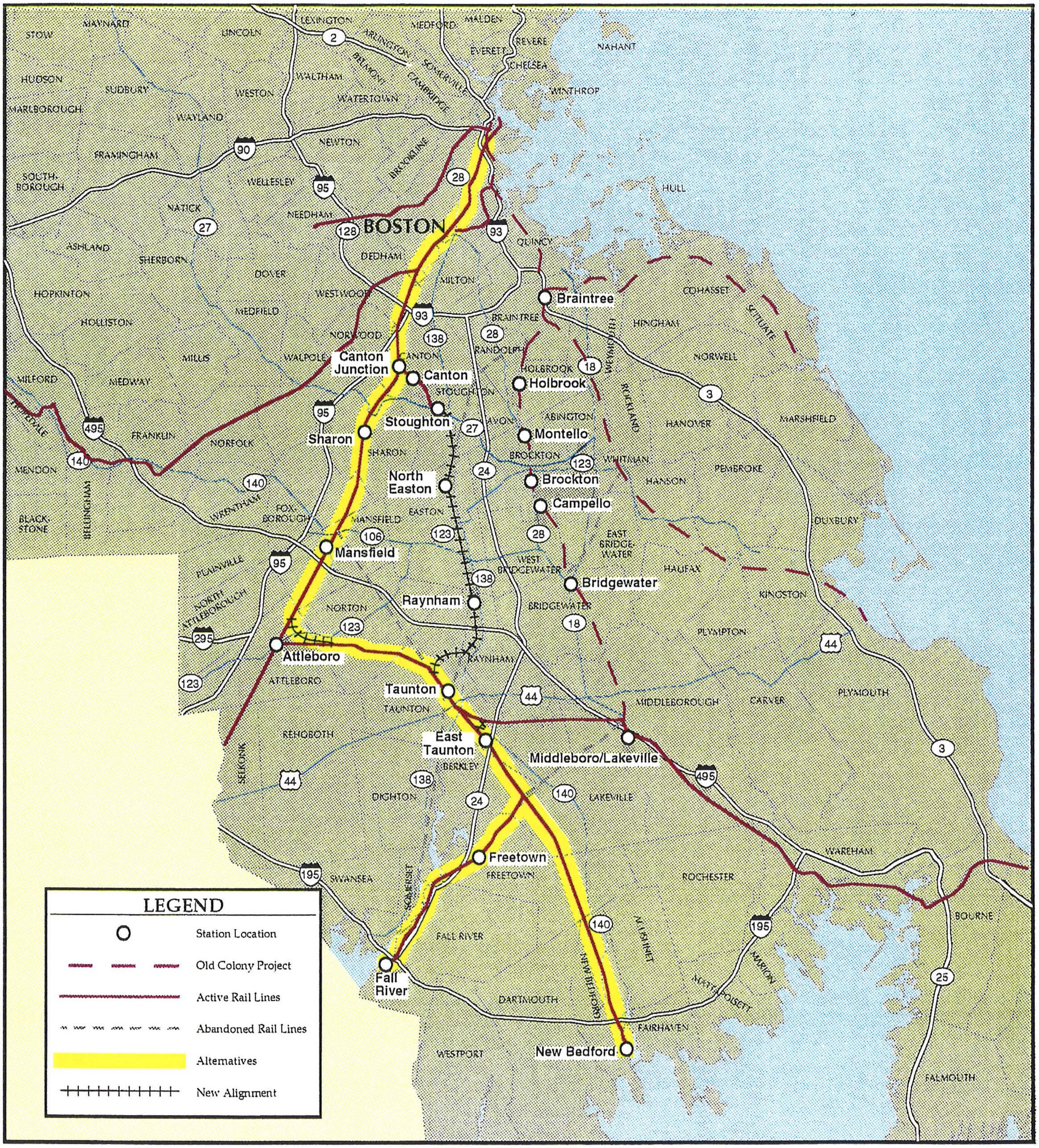
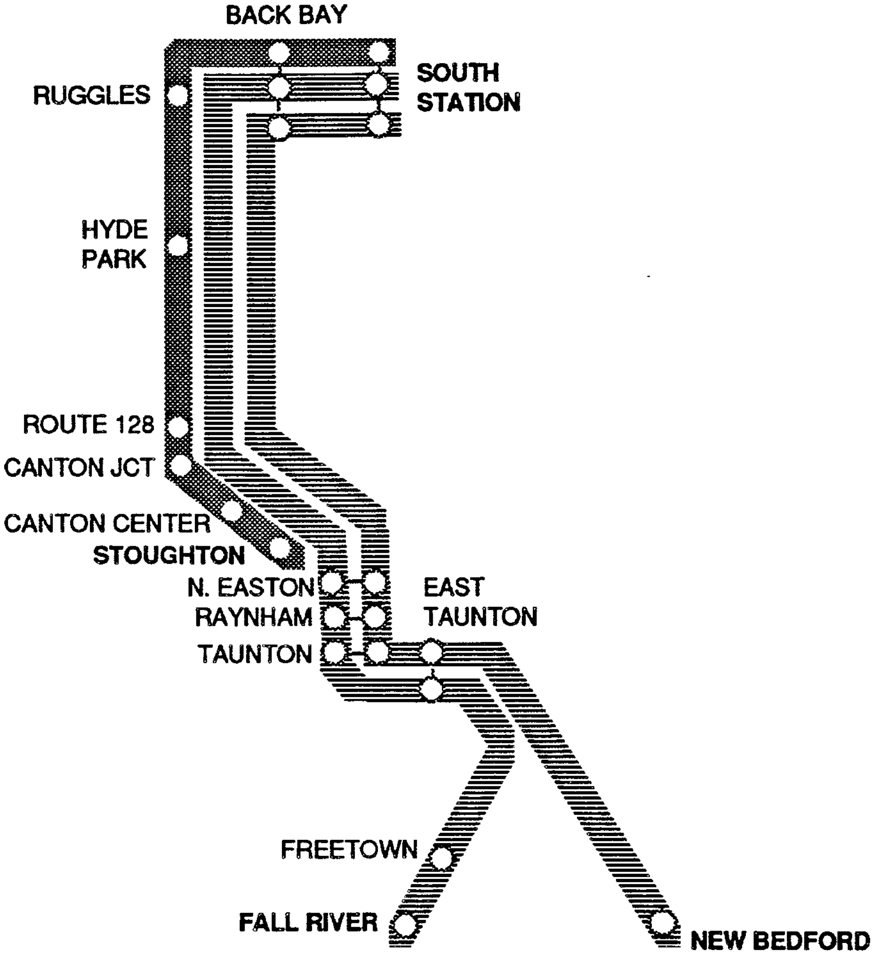


FIGURE 10A
Alternative 4 - New Bedford and Fall River to South Station via Stoughton



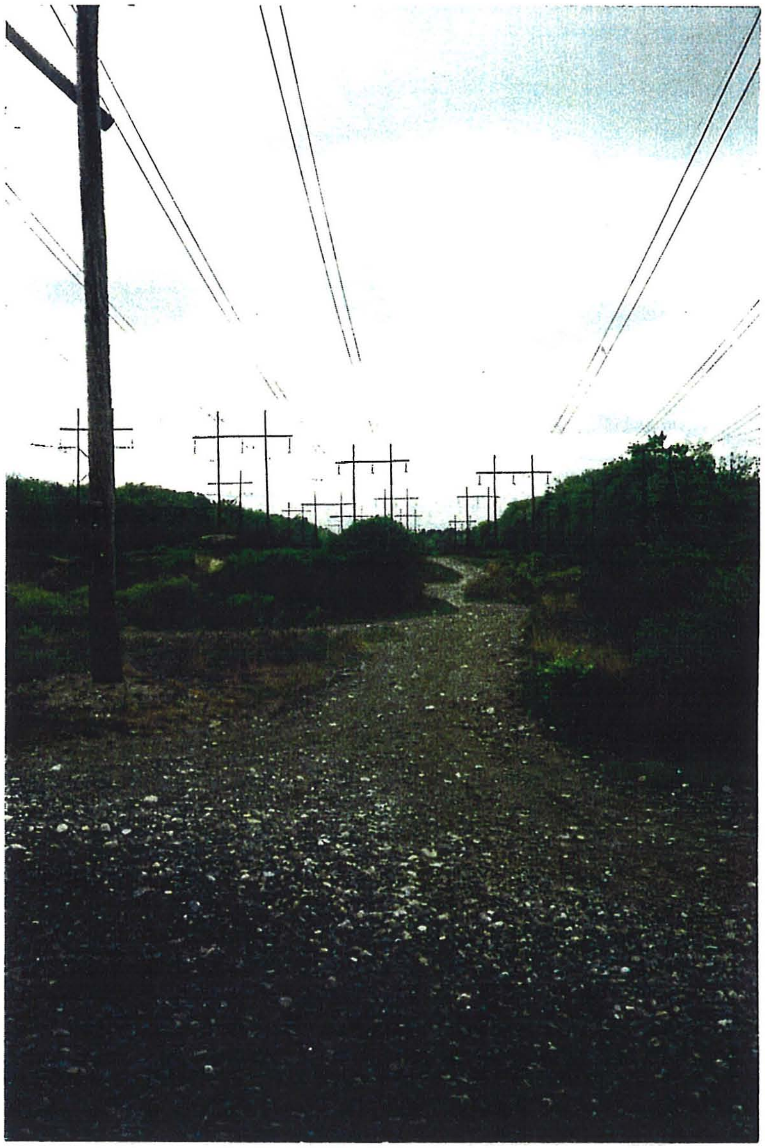
The railroad right-of-way between Stoughton and Taunton was taken out of service in 1959 and formally abandoned in 1966. Complete track and roadbed reconstruction to meet current MBTA standards would be required for use of this section of the line. South of Cotley Junction, complete rebuilding of the New Bedford and Newport Secondary Tracks would also be required.

Trains would stop in North Easton, Raynham, Taunton Center, East Taunton, Freetown, Fall River and New Bedford. Trains would run express from North Easton to Back Bay Station in Boston, and terminate at South Station. Travel time from Fall River to South Station would be 1 hour and 20 minutes and from New Bedford would be 1 hour and 18 minutes. Service from both cities would be provided every 30 minutes in the peak periods with 2 hour service in the off-peak.

Trains from New Bedford and Fall River would interface with Attleboro/Providence trains and Amtrak high-speed inter-city trains between Attleboro and South Station. Track conditions along the Attleboro Main Line were assumed to be consistent with Amtrak's Northeast Corridor Master Plan, as detailed in **Appendix B**. A two-mile bypass would be constructed along a power line right-of-way northeast of Attleboro to permit a direct connection between the Attleboro Line and the Attleboro Secondary heading towards Taunton (see **Photos E** and **F**). Some track rehabilitation would be required along the Attleboro Secondary to increase speeds and improve grade crossings. South of Cotley Junction, complete rebuilding of the New Bedford and Newport Secondary Tracks would also be required. The total extension would be about 41 miles.

PHOTO E
Attleboro Secondary Right-of-Way; View of Proposed Attleboro Bypass

PHOTO F
Proposed Right-of-Way Section for Attleboro Bypass



All trains from New Bedford would stop at East Taunton, Taunton Center, Mansfield and Sharon. Trains from Fall River would also stop at Freetown. From Sharon, the trains would run express to Back Bay Station. Commuter parking is assumed to be unconstrained at Mansfield and Sharon stations. Travel time from Fall River to South Station would be 1 hour and 23 minutes and from

New Bedford would be 1 hour and 21 minutes. Service would be provided from New Bedford and Fall River every 30 minutes during the peak periods with two hour service in the off-peak.

9. Alternative 6: Enhanced Commuter Bus

This alternative (**Figure 12**) is designed to maximize the use of buses, assuming no rail extension is built. It includes operational and capital improvements to the existing bus routes between Taunton, Fall River, New Bedford and Boston. Enhancements vary by route, but include frequency improvements, better distribution and provision of park-and-ride lots. No improvements were considered for the existing Middleborough to Boston bus service due to the planned implementation of commuter rail service along the Old Colony Line in 1996.

Operational Improvements:

Bus service from Fall River would be increased from its current 25 minute headways to 15 minute headways. This service would run express to Boston with one additional stop at Freetown. The current bus services from Taunton and New Bedford would be slightly modified in terms of their routing so that they have similar stopping patterns as the rail alternatives (see **Figure 12A**). The Taunton service would have two stops in Taunton, one stop in Raynham and one stop in North Easton. The service from downtown New Bedford would make three additional stops in New Bedford, one south of Route 6, one north of Route 6, one north of I-195, as well as a Taunton stop at Routes 24/140. The frequency of Taunton and New Bedford bus services would remain unchanged.

For the bus alternative, it was assumed that a new HOV lane would be operating on the Southeast Expressway (I-93). All buses would be allowed to use this HOV lane with an expected travel time savings of approximately 10 minutes. It was also assumed free transfers could be made from the buses to the MBTA transit system in order to provide better downtown distribution. Bus fares were reduced to be comparable with commuter rail fares.

Capital Improvements:

Additional park-and-ride lots were proposed where such facilities are not currently available and where the deficit would detract from potential ridership. Expansion of and/or new park-and-ride

FIGURE 12
Alternative 6:
Improved Bus Alternative

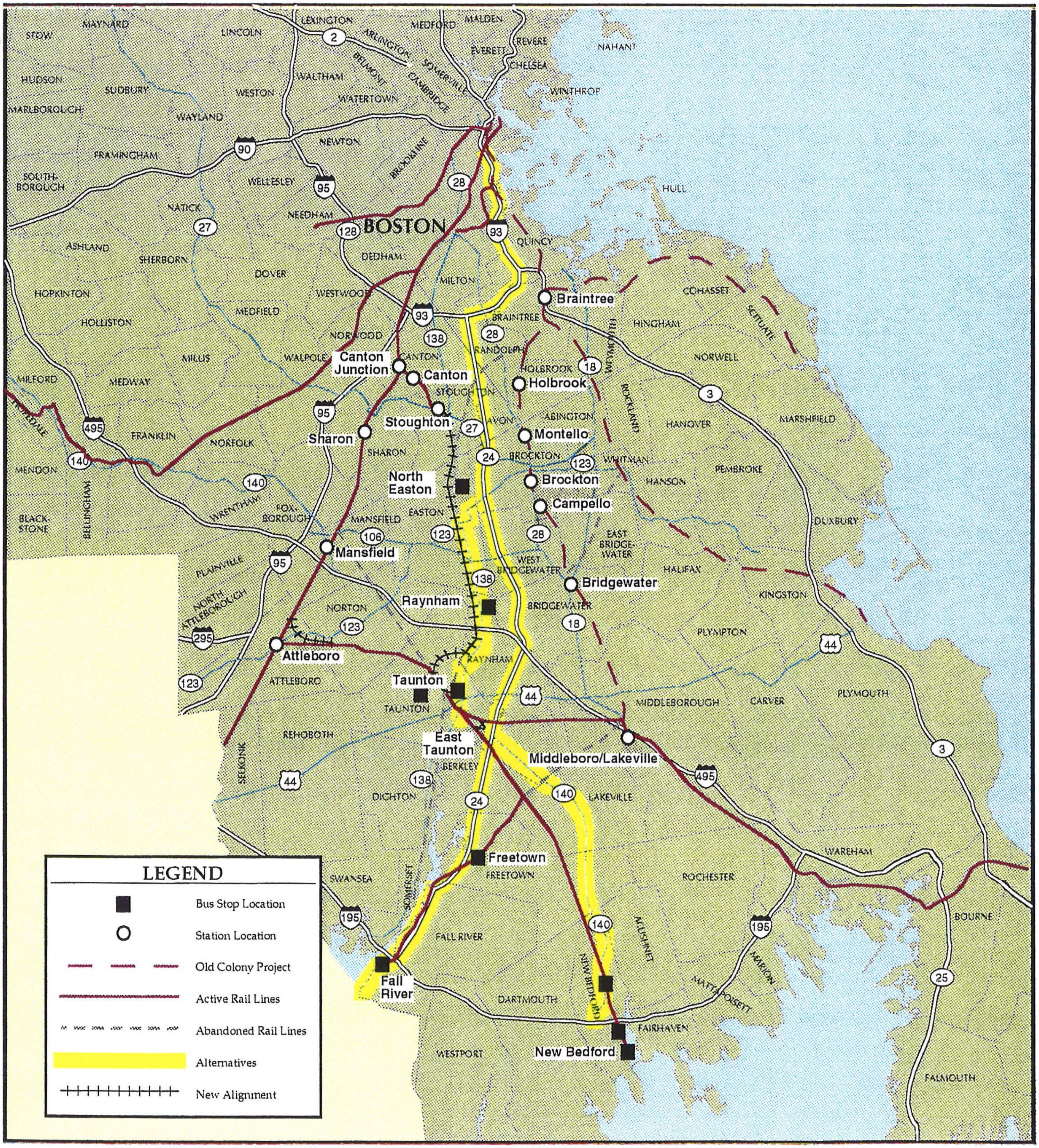
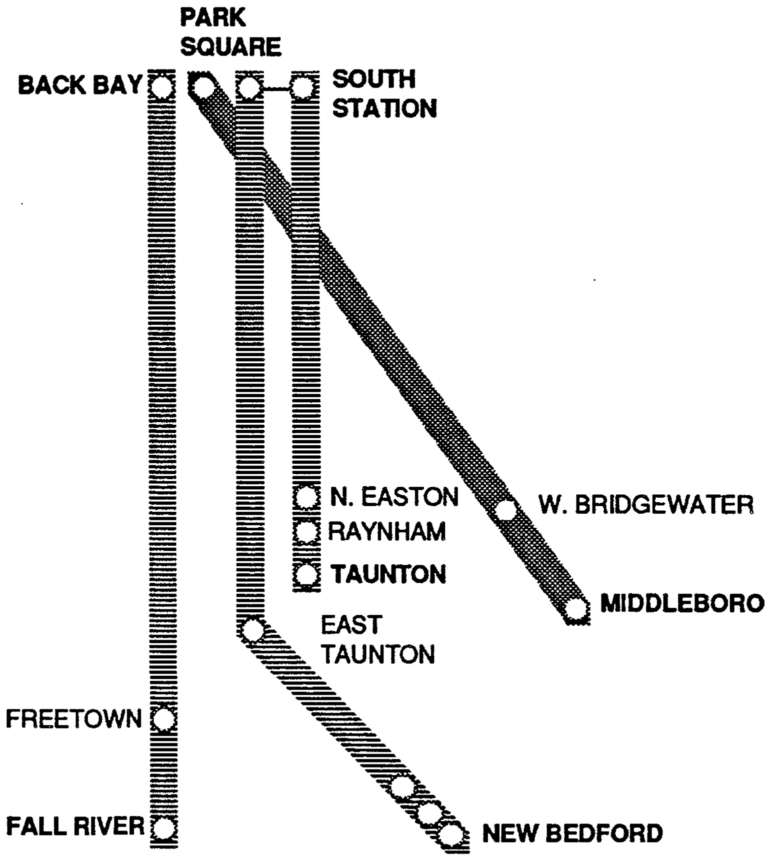


FIGURE 12A
Alternative 6 - Proposed Commuter Bus Service



lots were considered for the following communities: Fall River, Freetown, East Taunton, Raynham, Taunton and New Bedford. Also, some new terminal capacity at South Station must be provided in order to handle the additional number of buses resulting from this alternative. This would be addressed by extending the bus facility (now being constructed as part of the South Station Transportation Center) to the head house.

10. Alternatives Not Considered

Although extension of the Stoughton line only as far south as North Easton is evaluated in this Expanded Feasibility Study, an extension to Raynham only was not considered. The level of

IV. RIDERSHIP FORECASTS

The travel demand forecasting for this Expanded Feasibililty Report was performed by the Central Transportation Planning Staff (CTPS). The procedures used were similar to those used in the 1990 feasibility study and are based on the traditional four-step process using trip generation, trip distribution, mode choice and trip assignment. This process estimates average daily transit ridership, primarily on the basis of forecasts of population and employment, projected highway travel conditions (including downtown parking costs) and projected transit service to be provided. A more detailed description of the process is included in **Appendix A.**

The model that was used in this study is known as the Interim Regional Model, a single comprehensive regional model, used for highway, transit and high-occupancy vehicle (HOV) forecasting. It is based entirely on new data obtained from a Home Interview Survey conducted in 1991. Population and employment inputs to the demand forecasting process were obtained from the Southeastern Regional Planning and Economic Development District (SRPEDD) and the Metropolitan Area Planning Council (MAPC). Network development and travel time estimation were performed using the MINUTP modeling package.

Assumptions on planned highway and transit improvements, parking availability and fees, and other variables are detailed in **Appendix A.**

The market for the new rail service is composed primarily of work trips to downtown Boston as opposed to non-work trips or work trips contained entirely within the defined market area. Recent commuter rail surveys conducted by CTPS indicate that over 90 percent of all commuter rail trips are works trips destined to downtown Boston and east Cambridge.

The analysis did not include the potential impact on ridership from the proposed Wampanoag Entertainment Complex in New Bedford. Any future analysis should consider the potential ridership from this facilility.

Table 2 presents the projected rail boardings by station for each alternative and **Table 3** presents the projected bus boardings for each alternative. For each of the rail alternatives, commuter bus service would remain as existing. As stated in the 1990 Feasibility Study and shown in **Table 2,** the North Easton station would attract the highest number of boardings because the town of Easton is a very large source of Boston work trips. The East Taunton station attracts the second highest ridership, due in part to its good highway access.

Table 4 presents a summary of ridership, with combined bus and rail boardings for each alternative. Backup tables provided in **Appendix A,** show a breakdown of total person trip boardings at each station by station access.

TABLE 4
Year 2010 Ridership - Rail and Bus Boardings Combined

Alt. No.	Description	Train Boardings	Bus Boardings	Total Ridership	**New Transit Riders**
1	Fall River via Middleborough	1,855	1,010	2,865	**1,405**
1A	Fall River via Middleborough with reverse move	835	1,115	1,950	**495**
2	New Bedford via Middleborough	1,645	1,070	2,715	**1,250**
2A	New Bedford via Middleborough with reverse move	715	1,215	1,930	**470**
3	North Easton via Stoughton Branch	950	1,400	2,350	**900**
4	Fall River/New Bedford via Stoughton	5,300	180	5,480	**3,520**
5	Fall River/New Bedford via Attleboro	3,940	265	4,205	**2,545**
6	Commuter Bus	0	3,520	3,520	**2,060**

Alternative 4, serving both Fall River and New Bedford via an extension of the Stoughton Branch, has the highest ridership with 5,300 train boardings. In terms of new trips (diverted from automobile), this alternative would also be the best. The ridership estimates indicate that more than 85% of the new bus riders projected under Alternative 6 would switch to the rail mode under this alternative.

Alternative 5 which uses an Attleboro Bypass, has slightly lower boardings at each station than Alternative 4 which results in a 25% drop in total ridership. This is due to a travel time increase of

Although projections for Fall River and New Bedford alternatives are for the year 2010, it appears only the implementation of full branched service to both cities would achieve ridership that is at a level comparable to existing commuter rail lines. Adding one additional stop to the Stoughton Branch under Alternative 3 would also substantially increase ridership on that line.

V. OPERATIONAL ISSUES

Trip run times for each rail alternative were developed with the TRAINSIM train performance program using the original track data computer files used to estimate trip times in the 1990 Feasibility Study. Bus travel times were generated from the regional model. The results are shown in **Table 5**.

TABLE 5
Rail and Bus Alternative Trip Times

Alt. No.	Description	Route Miles to Boston	New Route Miles	No. of Stations	No. of New Stations	Inbound Trip Time (hr:min)
1	Fall River via Middleborough	55.4	24.6	10	4	1:26
1A	Fall River via Middleborough with reverse move at Lakeville	56.5	25.7	10	3	1:36
2	New Bedford via Middleborough	58.7	26.7	9	3	1:24
2A	New Bedford via Middleborough with reverse move at Lakeville	59.8	27.8	9	2	1:34
3	North Easton via Stoughton Branch	21.5	2.5	4	1	0:33
4	Fall River/New Bedford via Stoughton		107.9	8	7	
	Fall River	*52.3*		*7*	*6*	1:20
	New Bedford	*55.6*		*6*	*5*	1:18
5	Fall River/New Bedford via Attleboro		118.0	8	7	
	Fall River	*57.3*		*7*	*4*	1:23
	New Bedford	*60.6*		*6*	*3*	1:21
6	Commuter Bus		-	7	3	
	Fall River	*51.2*				0:55
	New Bedford	*55.6*				1:15
	Taunton	*36.1*				0:45

Only one major change in operating assumptions was made between the 1990 Feasibility Study and the current analysis, reducing the maximum train speed from 79 mph to 70 mph to be consistent with Old Colony design standards. Slower speeds of 30 mph were used along sections in Taunton to account for the frequent sharp curvatures and numerous grade crossings.

Alternative 5, providing service from Fall River/New Bedford to South Station via the Attleboro Branch, is viable from an operations standpoint, assuming the proper track layout can be constructed at Attleboro to permit a direct connection to the Attleboro Line heading towards Boston. Trains from Fall River and New Bedford will interface with Attleboro/Providence trains between Attleboro and South Station, as well as Amtrak high-speed intercity trains. As noted above, Amtrak has already simulated this volume of trains from Canton Junction to South Station. However, it would be necessary to simulate the increased volume between Attleboro and Canton Junction to ensure the capacity exists for Fall River/New Bedford service, particularly considering Amtrak's plan to implement high speed service along the Northeast Corridor. While under Alternative 5 the diverging move at Attleboro would have some impact on Main Line traffic at this point, it would lessen the impact (by 50%) of diverging moves at Canton Junction that were assumed in Amtrak's previous simulation.

The major operational issue identified for Alternative 6, the Commuter Bus alternative, was a capacity issue at South Station. The bus routes proposed are essentially identical to those currently in service, with a few additional stops. However, increased ridership would have an impact on future dock capacity at South Station. It is estimated that an 26 more buses would arrive during the AM peak hour; additional capacity would need to be constructed to accommodate this increase.

An evaluation of track capacity at South Station was also performed. Based on data compiled for a 1992 report (T.K. Dyer) on the preliminary schedule for Old Colony Service (Sverdrup) and on MBTA/Amtrak plans for 2010, an estimate of 2010 capacity at South Station was generated. Track usage assumed the implementation of MBTA service to Worcester and along the Old Colony lines, increased service along the Franklin line, extension of service to New Bedford/Fall River and additional Amtrak service along the Northeast Corridor. The results in **Table 6** show that South Station can accommodate New Bedford/Fall River service, but will essentially be at capacity in the year 2010, particularly in the evening peak. The analysis was based on the current train layover time of 20 minutes. It is assumed that a reduction of layover time to 15 minutes in the evening peak would provide sufficient capacity for all planned train service.

Layover facilities would be essentially as proposed in the 1990 Feasibility Study. The New Bedford Yard would be used for alternatives terminating in New Bedford. A new layover facility was proposed in Fall River, north of Battleship Cove and I-195. Branched service to both

TABLE 6
South Station Capacity Analysis - Year 2010

	AM Peak	PM Peak
Total number of trains	48	50
MBTA trains	44	43
Amtrak trains	4	8
Total minutes of layover	942	108
Average layover per train	20	22*
Time unoccupied	618	471
Time unavailable	141	-29
Available Capacity	**5**	**-1***

* Reduction of layover period would provide sufficient capacity for New Bedford/Fall River service.

communities would require a new layover facility, located in East Taunton or Myricks. For Alternative 3 originating from North Easton, a side track would be proposed for layover, similar to the existing situation in Stoughton.

composed of members of affected communities, regional planning agencies, and interested citizens. The MBTA may want to consider combining this CAC with the technical advisory group required by the major transportation investment analysis.

National Environmental Policy Act of 1972 (NEPA)

If a project involves a federal lead agency, the NEPA process must be followed, requiring the preparation of an Environmental Assessment or Environmental Impact Statement through public and agency scoping. The federal lead agency bases its permit decision on the environmental factors and public benefits expressed in the Environmental Impact Statement. It may be wise to develop a coordinated NEPA/MEPA review so that one document may be prepared for both agencies. Other federal regulations that must be considered if federal monies are used include:

National Historic Preservation Act

The regulations under this act require investigation of all properties of land areas, suspected or known of being historical, archeological or culturally significant.

Department of Transportation Act of 1966

Under Section 4(f) of the act, action must be taken to protect and preserve public parks, recreational lands, wildlife refuges and historic sites.

Intermodal Surface Transportation Efficiency Act (ISTEA)

The ISTEA of 1991 made substantial changes to the criteria used by the federal government to provide discretionary grants in support of major transit capital investment projects (Section 3, New Starts). In addition, on January 26, 1994, Executive Order 12893 was issued describing Principles for Federal Infrastructure Investments which apply to all programs and required revisions to the Federal Transit Administration's (FTA's) Major Investment Policy.

The new procedures amended Section 3(i) of the Federal Transportation Act to require that a project must be "justified, based on a comprehensive review of its mobility improvements, environmental benefits, cost-effectiveness, and operating efficiencies".